

# ANNUAL REPORT

(SURVEY)

— OF THE —

**Medical Officer of Health**

— TO THE —

**Holland County Council**

**For the Year 1925**

— BY —

**H. C. JENNINGS,**

**M.B., B.S. (Lond.), M.R.C.S., D.P.H. (R.C.P.S.).**

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**To the Chairman and Members of the Public Health and  
Housing Committee and Maternity and Child Welfare  
Committee.**

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Ladies and Gentlemen,

I have pleasure in submitting my annual report for the year 1925. In accordance with the requirements of the Ministry of Health this is a survey report, and by reason of its comprehensiveness it has necessitated a great deal of care and attention in compilation.

The general health of the County has been good as judged by a death-rate of 11.7 and an infantile mortality rate of 63. The birth-rate (21.3) has risen slightly since 1924.

There are several matters affecting the public health to which I would especially draw your attention, viz. :—

- (1) the clearance of slum property and provision of adequate housing accommodation.
- (2) the provision of a pure water supply to several of the townships in the south of the County.
- (3) the provision of modern methods of sewage and refuse disposal in Boston and the adjacent portions of the rural district, and
- (4) the provision of hospital beds for cases of difficult midwifery and for those cases where the home conditions are bad.

Dr. Caroline Wright resigned her appointment in June and was succeeded by Dr. Eileen Turner. To both of these ladies and to the whole staff, nursing and clinical, I am indebted for their good work and loyal support.

May I, in conclusion, thank the members of the two Committees for their kind consideration shown me during the year.

I am,

Ladies and Gentlemen,

Your obedient Servant,

**H. C. JENNINGS.**

Sessions House,  
Boston, Lincs.,  
March, 1926.

## PUBLIC HEALTH AND HOUSING COMMITTEE.

Councillor S. S. RENDALL, M.B. (Chairman).

Ald. R. Coupland.  
Ald. R. J. Harwood.  
Ald. F. Howard.  
Ald. R. Riddington.  
Ald. J. M. Simpson.  
Coun. T. W. Banks.  
Coun. J. T. Biggadike.  
Coun. E. W. Bowser.  
Coun. F. Baxter.

Coun. H. J. B. Cooke.  
Coun. R. M. Fletcher.  
Coun. E. Freemantle.  
Coun. R. Gleed, D.L.  
Coun. J. Maltby.  
Coun. J. H. Mountain.  
Coun. R. Salter  
Coun. E. I. R. Stapleton.  
Coun. T. Warrick.

## MATERNITY AND CHILD WELFARE COMMITTEE.

Councillor S. S. RENDALL, M.B. (Chairman).

Ald. R. Coupland.  
Ald. R. Riddington.  
Coun. J. T. Biggadike.  
Coun. F. Baxter.  
Coun. H. J. B. Cooke.  
Coun. Freemantle.

Coun. R. Gleed, D.L.  
Coun. G. H. Harris.  
Coun. R. Longlands.  
Coun. J. H. Mountain.  
Coun. E. I. R. Stapleton.  
Coun. S. Wain.

with Miss E. M. Maples, Mrs. R. Coupland, and Mrs. Nicholas.

## STAFF.

### County Medical Officer of Health :

H. C. Jennings, M.B., B.S., M.R.C.S., D.P.H.

### Assistant Medical Officer of Health :

Caroline I. Wright, M.B., B.S., D.P.H. (*Resigned June, 1925*).

Eileen M. Turner, M.A., M.B., D.P.H. (*appointed July, 1925*).

### Matron, Holland Sanatorium :

Miss M. Shipstone.

### Health Visitors :

†\* Miss Black  
†\* Miss Dixon.

\* Miss Parsons.  
†\*‡ Miss Robinson.  
\* Miss Spencer.

### Chief Clerk :

Walter Ingram.

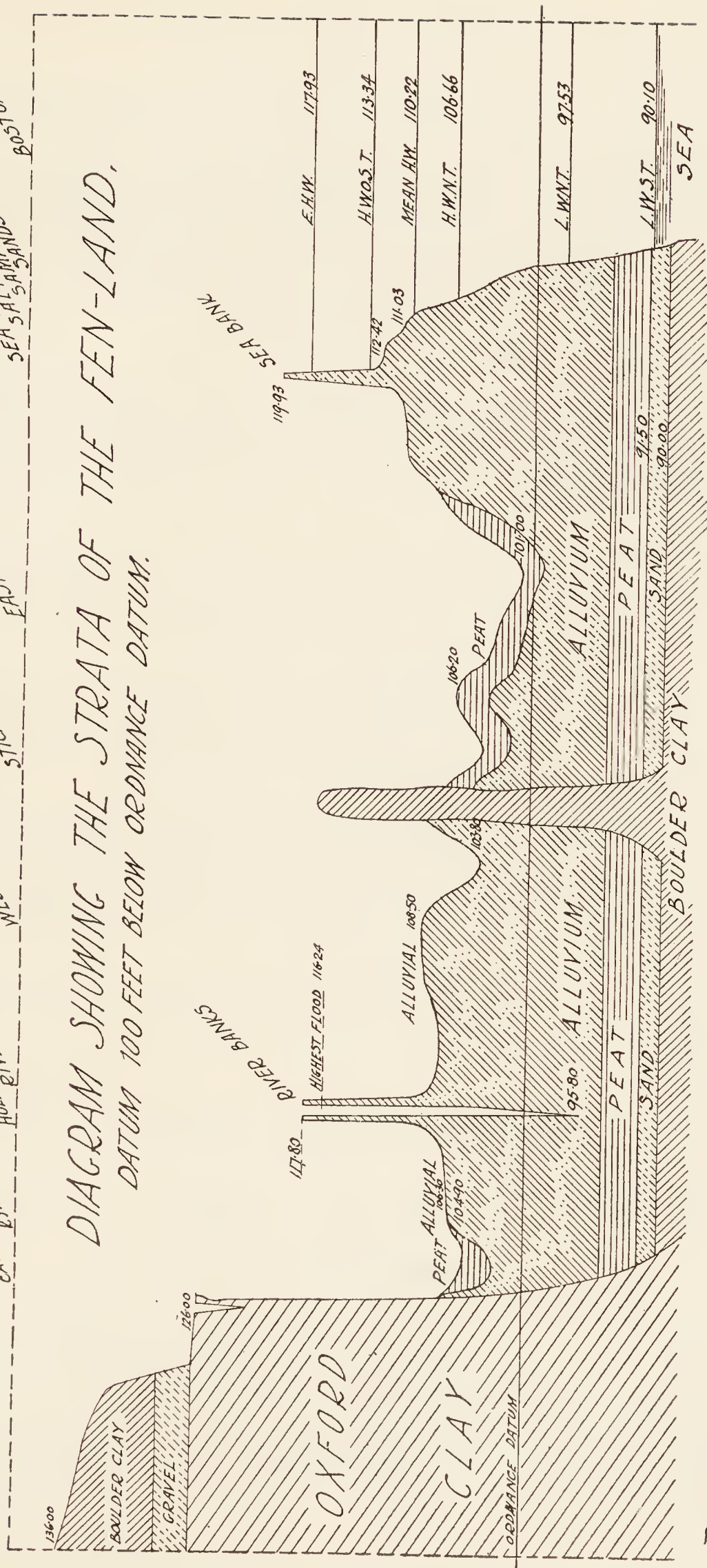


WEST FEN STICKNEY EAST FEN

SEA SANDS  
BALTIMORE  
BANKMAHSE

BOSTON DEEPS

DIAGRAM SHOWING THE STRATA OF THE FEN-LAND,  
DATUM 100 FEET BELOW ORDNANCE DATUM.



*By permission*

from Wheeler's "History of the Fen's"

## GENERAL PROVISION OF HEALTH SERVICES IN THE AREA.

### HOSPITALS.

#### (a) TUBERCULOSIS.

The Holland Sanatorium situated on the southern outskirts of Boston ( $1\frac{1}{2}$  miles from station) provides accommodation for 24 cases of advanced tuberculosis. This Institution is provided by the County Council.

#### (b) FEVER AND SMALL-POX.

Boston (Urban and Rural Joint Board) contains 17 beds. Adjoining this hospital are two smaller pavilions :—

(1) for small-pox—8 beds.

(2) port sanitary hospital—8 beds.

Spalding Urban District has a fever hospital accommodating 4 beds and 2 cots. This building is also the only accommodation provided for small-pox cases.

A fever hospital at Fleet provides accommodation for 8 adults and two children living in the Holbeach, Long Sutton and Sutton Bridge Urban Districts and the East Elloe Rural District. Small-pox cases have also to be accommodated in this building.

#### (c) MATERNITY AND CHILDREN.

There are no hospitals in the area devoted solely to these purposes.

#### (d) GENERAL.

(1) The Boston Hospital, consisting of 34 beds, is situated in the north of the County.

(2) The Spalding (Johnson) Hospital in the south of the County has accommodation for 34 patients.

### AMBULANCE FACILITIES.

#### (a) FEVER CASES.

At present in the north of the County there is one horse ambulance, but the Boston Urban and Rural Joint Board have sanctioned the provision of a motor ambulance.

A horse ambulance is also available for removing cases to the Fleet Hospital in the south of the County.

(b) NON-INFECTIOUS AND ACCIDENT CASES.

The St. John Ambulance Brigade provides two motor ambulances, one in Boston and one in Spalding, for such cases.

**CLINICS AND TREATMENT CENTRES.**

(a) MATERNITY AND CHILD WELFARE CENTRES.

Spalding.—The Church Cote. Sessions are held every Tuesday afternoon.

Long Sutton.—The Hut. Sessions are held on alternate Friday afternoons.

(b) SCHOOL CLINIC.

Spalding.—Holland House. Sessions are held every Tuesday and Saturday mornings and at such times as are necessary.

(c) TUBERCULOSIS DISPENSARIES.

Boston.—Holland Sanatorium. Sessions are held every Wednesday afternoon from 2 to 4.30 p.m.

Spalding.—Holland House. Sessions are held every Tuesday morning from 10 to 12.30 p.m.

All the above-mentioned are provided by the County Council.

(d) VENEREAL DISEASE CLINICS.

There are no such clinics within the County area, but arrangements have been made by the County Council whereby such cases may obtain treatment either at Peterborough or Lincoln.

**PROFESSIONAL NURSING IN THE HOME.**

(a) GENERAL.

At the following places Local District Nursing Associations (affiliated to the Lincolnshire Nursing Association) provide one nurse each for general but not infectious cases:—Wrangle, Donington, Gosberton, Pinchbeck, Spalding (2), Fleet, Holbeach, and Long Sutton.

In Boston Borough a voluntary association provides two district nurses for similar purposes.

(b) FOR INFECTIOUS DISEASES.

No arrangements exist.

**MIDWIVES.**

There are eleven midwives practising in the area none of which is subsidised by the County Council

**LEGISLATION IN FORCE.**

The following table shows the Local Acts, Special Orders, General Adoptive Acts, and Bye Laws relating to the public health, in force in the area :—



## NATURAL AND SOCIAL CONDITIONS.

### PHYSICAL FEATURES.

Situated on the East Coast, the Administrative County forms an L-shaped area bounding the eastern and southern shores of the Wash. The County covers an area of 263,120 acres inclusive of inland water.

The whole County at one time formed part of a morass extending from the Trent to Huntingdon, through which the rivers Trent, Witham, Welland, Nene and Ouse flowed to the sea, and which, being below the level of high tide, was constantly inundated by the sea. The first portion to be reclaimed was an irregular central strip, extending from Wrangle to Long Sutton, on which the older towns and villages now stand ; this was enclosed between banks about 1,700 years ago, and in South Holland, had an average width of 5 miles. To the east and north of this strip successive enclosures have been made from the marshes bordering the Wash, approximately 64,000 acres having been reclaimed during the last 300 years. This land consists of alluvial soil brought down by the rivers and deposited by the sea at the head of the bay, forming accretions which, in South Holland are about 3 feet higher than the land originally enclosed by the Roman Bank. To the west and south are the fenlands which have been drained and brought into cultivation at different dates ; they form the lowest part of the County, their elevation varying from  $12\frac{1}{2}$  to  $6\frac{1}{2}$  feet below high water at spring tides, the average level being 6 feet above ordinance datum, and this level is gradually sinking, owing the shrinkage of the peat after drainage.

The elevation of the land varies from 21 feet above O.D. at Holbeach Hurn to 6 feet above in Deeping Fen, the highest points are on the sea banks which have an elevation of 18 to 22 feet above O.D. and, with the exception of these and a few small inland areas, the whole county lies below the level of high tide. The Rivers Witham, Welland, and Nene, which drain a large area in the Midlands, traverse the County to their outfall in the Wash, and are enclosed between artificial banks which protect the neighbouring lands from inundations at high tides and during rainy seasons.



# ADOPTIVE ACTS, BYE-LAWS, ETC., IN FORCE IN COUNTY OF HOLLAND (1925).

TABLE A.

ADOPTIVE ACTS.										BYE LAWS.											
District.				P. H. Acts Amendment Act, 1890, pt. 3.	P. H. Amendment Act, 1907.	Infectious Diseases Prevention Act, 1890.	Private Street Works Act, 1892.	Scavenging and Cleansing P. H. Act, 1875, Sec. 44.	Prevention of Nuisances, P. H. Act, 1875, Sec. 44.	Common Lodging Houses, P. H. Act, 1875, Sec. 80.	Houses Let in Lodgings, P. H. Act, 1875, Sec. 90.	Offensive Trades, P. H. Act, 1875, Sec. 113.	Management of Mortuaries, P. H. Act, 1875, Sec. 141.	New Streets and Buildings, P. H. Act, 1875, Sec. 157.	Slaughter Houses, P. H. Act, 1875, Sec. 169.	Public Sanitary Conveniences, P. H. Acts (Amen.) Act, 1890, Sec. 20.	New Streets and Buildings, P. H. Acts (Amen.) Act, 1890, Sec. 23.	Scavenging and Cleansing, P. H. Acts (Amen.) Act, 1890, Sec. 26.	Dairies, Cowsheds and Milk Shops Order.	Free provision of Diphtheria Anti-toxin.	Provision of Bacteriological diagnosis.
URBAN.																					
Boston	.....	.....	.....	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No	Yes	Yes	No	Yes	No	Yes	Yes	Yes
Spalding	.....	.....	.....	Yes	No	Yes	Yes	No	No	Yes	No	No	No	Yes	Yes	No	No	No	Yes	Yes	Yes
Holbeach	.....	.....	.....	No	No	Yes	Yes	No	No	Yes	No	No	No	Yes	Yes	No	No	No	Yes	Yes	No
Long Sutton	.....	.....	.....	Yes	Yes	Yes	No	No	No	Yes	No	No	No	Yes	Yes	No	Yes	No	Yes	Yes	Yes
Sutton Bridge	.....	.....	.....	No	No	No	No	Yes	Yes	No	No	No	No	Yes	No	No	No	No	No	No	No
RURAL.																					
Boston	.....	.....	.....	Yes	No	No	No	No	No	No	No	No	No	Yes	Yes	No	Yes	No	Yes	Yes	Yes
Spalding	.....	.....	.....	No	No	Yes	No	No	No	No	No	No	No	No	No	No	No	No	?	Yes	Yes
East Elloe	.....	.....	.....	No	Yes	Yes	No	No	No	No	No	No	No	Yes	Yes	No	No	No	Yes	Yes	No
Crowland	.....	.....	.....	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	Yes	Yes	No



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The land is drained by open water-courses or "drains" communicating with the sea or rivers, the water being discharged at low tide by means of sluices. In some parts of the fens it is necessary to raise the drainage water to sea level by steam power. The management of the drains is vested in the Court of Sewers, the Black Sluice Commissioners, the South Holland Drainage Commissioners, and other bodies.

The surface soil on the alluvial lands reclaimed from the sea consists of a foot or more of rich loam, resting on a bed of alluvial silt which, near the sea and the river outfalls, has a depth of 16 or 18 feet and varies in composition from a light silty soil to soft clay. It gradually turns off towards the fenlands, where there is a surface layer of 1 to 10 feet of peat, which also forms a substratum throughout the County below the alluvium.

Below the peat is a layer of sand,  $\frac{1}{2}$  to 1 foot thick, which overlies the boulder clay, a dense impermeable stratum 100 to 150 feet thick in places. Below this are beds of Kimeridge and Oxford clays, which are 500 feet thick in parts, and which overlie other Oolitic strata, including the Lincolnshire limestone, the chief water bearing formation in Lincolnshire. This has an outcrop in Kesteven extending from Lincoln to Stamford, with an easterly inclination.

At Bourne it is about 100 feet below the surface, at West Pinchbeck 170 feet (thickness of stratum 80 feet), at Deeping St. Nicholas 285 feet (thickness 50 feet), and at Crowland 250 feet (thickness 36 feet); whilst borings at Boston (572 feet), Fosdyke (236 feet), and Long Sutton (273 feet) have failed to reach it. At Crowland the boring was continued until the Middle Lias was reached at 470 feet when more water was found.

The subsoil water, known locally as "soak" or "sock" derived chiefly from the rainfall, flows through the silt towards the sea. Its level rises and falls with the rise and fall of the water in the rivers and main drains, and is also affected by the tides for a considerable distance inland. Its height can be and sometimes is, raised in dry summers by admitting sea or river water into the surface drains. Its level also varies with the season of the year, from about a foot below the surface in some parts during wet winters to 10 feet or more below in times of drought, and it is said to be so permanently in wells sunk during spring tides.

The average rainfall over the greater part of the County is between 22.5 and 25 inches per annum.



The following is the record of the rainfall in Boston and district for the year 1925 :—

January .....	1.06 inches
February .....	1.75
March .....	1.17
April .....	1.79
May .....	3.51
June .....	.17
July .....	.93
August .....	1.23
September .....	2.60
October .....	2.06
November .....	2.18
December .....	1.69
	<hr/>
	20.14
	<hr/>

The rainfall during 1924 was as follows :—

January .....	1.95 inches
February .....	.78
March .....	.59
April .....	1.65
May .....	2.80
June .....	2.05
July .....	1.85
August .....	1.93
September .....	1.81
October .....	3.82
November .....	1.87
December .....	1.63
	<hr/>
	22.75
	<hr/>

### SOCIAL CONDITIONS.

The average number of persons per 100 acres is 38, and the total population is 87,680.

Of this number less than 50% are living under strictly urban conditions, the greater portion of the population being distributed over a wide area ; the rural districts being sparsely populated.

The inhabitants of the County are almost entirely engaged in agriculture or trades in connection therewith. Fruit is produced in large quantities in the south-east of the County and the bulb growing industry flourishes around Spalding. The most important crop cultivated in the County is potatoes.

The problem of locomotion in the County materially influences the Sanitary Administration, by reason of the time involved and also on account of the expense. District Councils have in the past found a practicable solution of the difficulty by appointing part-time Medical Officers of Health. The tendency towards the employment of whole-time officers specialising in Health matters for "Combined Districts" is becoming irresistible. These officers in their areas would not only carry out the duties of a District Medical Officer of Health, but also such as are administered by the County, viz. :—Tuberculosis, School Medical Inspection and Maternity and Child Welfare. This County does not present any features which would make the formation of Combined Districts difficult, and one looks forward to the time when Sanitary Administration will be carried out by two Combined Districts, viz. : one for North and one for South Holland.

### POPULATION.

Census, 1911	.....	.....	.....	.....	.....	82,860
Census, 1921	.....	.....	.....	.....	.....	85,254
Estimated population, 1925 (supplied by Registrar-General)	.....	.....	.....	.....	.....	87,680

The natural increase of population for 1925, by excess of births over deaths was 800, compared with 792 in 1924, and 879 in 1923.

Area in acres (inclusive of inland water)	.....	.....	263,120
Urban Districts	.....	.....	46,247
Rural Districts	.....	.....	216,873
Number of inhabited houses	.....	.....	*20,079
Average number of persons per house	.....	.....	* 4.2
Average number of person per 100 acres	.....	.....	* 38

Rateable value of County :—

Approximate product of a 1d. rate	.....	.....	£2,082
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\* Census 1921.

The general Sanitary Administration of the County is carried out by 11 District Councils.

**URBAN DISTRICTS.**

<u>District.</u>	<u>Name of M.O.H.</u>	<u>Address.</u>
Boston (Borough).	D. C. Robertson, M.B., D.P.H.	Municipal Buildings, Boston.
Spalding	J. R. Munro, M.D.	15, High Street, Spalding.
Holbeach	W. Ormsby, L.R.C.P., I., L.R.C.S., I., L.M.	Holbeach,
Long Sutton	R. Murray Barrow, M.B., B.S.	Long Sutton.
Sutton Bridge	G. F. Collins, M.R.C.S., L.R.C.P. I., D.P.H.	Sudeley House, Sutton Bridge.

**RURAL DISTRICTS.**

Boston	D. C. Robertson, M.B., D.P.H.	8, Market Place, Boston.
Spalding	S. H. Perry, M.R.C.S., L.R.C.P.	The Master's Lodge, Spalding.
East Elloe	F. Walker, M.R.C.S., L.R.C.P.	Littlebury House, Holbeach.
Crowland	F. Husband-Clutton, M.R.C.S., L.R.C.P.	Crowland.

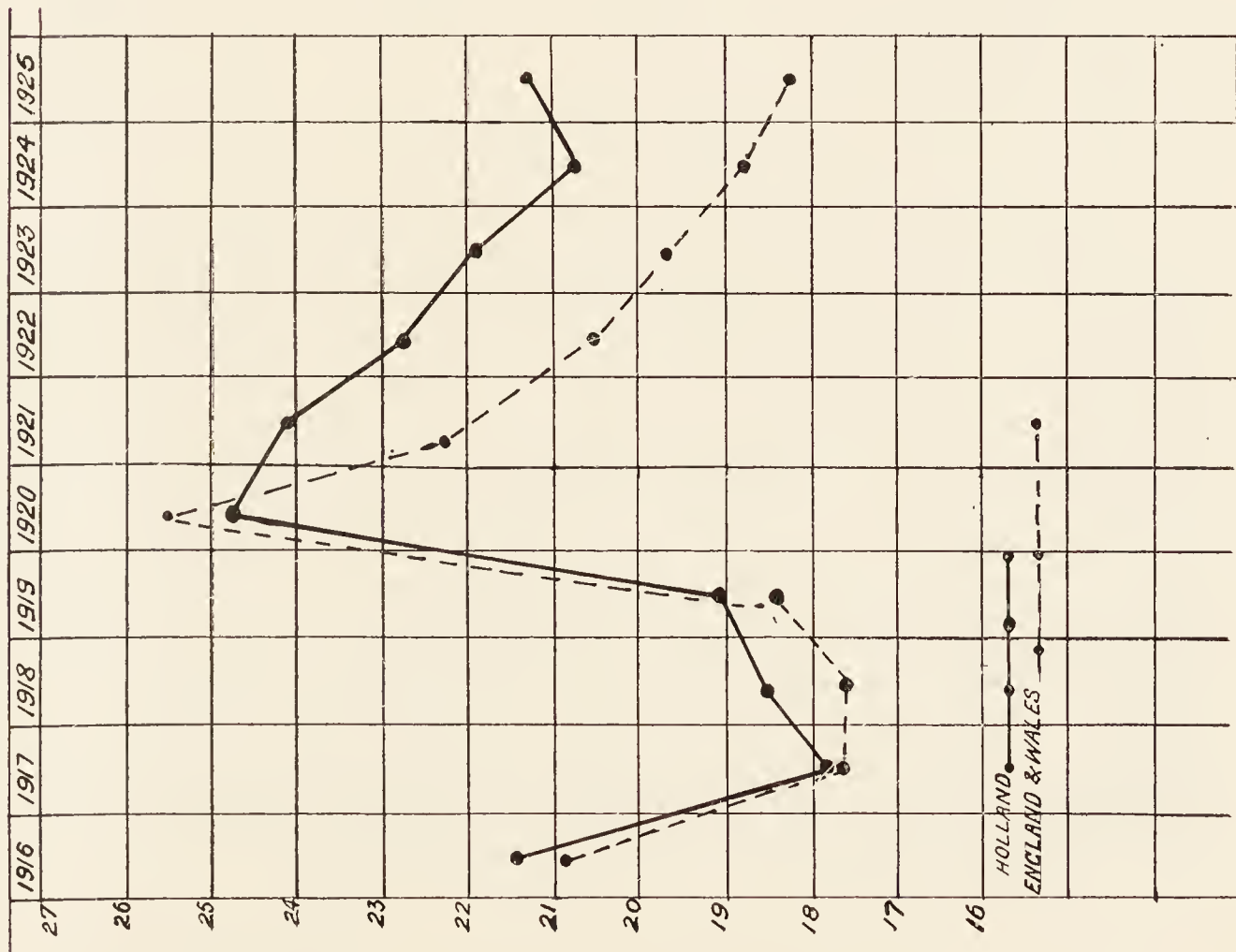
**PORTS.**

Boston	D. C. Robertson, M.B., D.P.H.	Municipal Buildings, Boston.
Wisbech	C. F. Collins, M.R.C.S., L.R.C.P.I., D.P.H.	Sudeley House, Sutton Bridge.

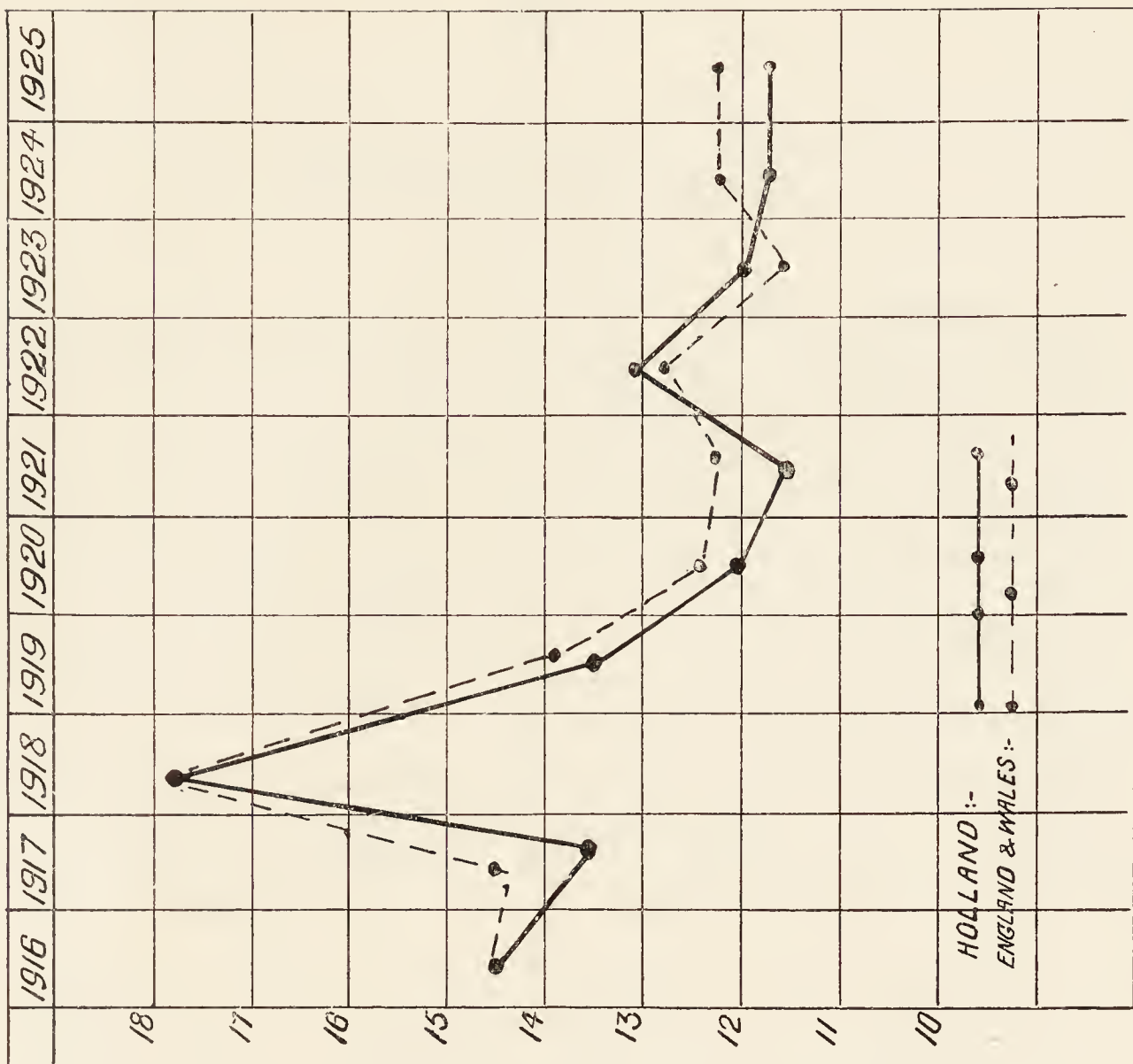
*“Health is the soul of life”—Descartes.*



*BIRTH RATES FOR 10 YEARS. 1916-1925.*



*DEATH RATES for 10 YEARS. 1916-1925.*



## VITAL STATISTICS.

### BIRTHS.

The number of births registered in the County during 1925 was 1,866 compared with 1,817 in 1924, 1,898 in 1923, and 1,966 in 1922. This shows a slight increase of 49 since 1924.

The birth rate per 1,000 of the population in 1925 was 21.3 compared with 18.3 for England and Wales during the same period. The birth-rate for 1925, with the exception of war years 1917 and 1918 and the year following when it was 17.9, 18.5, and 19.1 respectively, is the lowest but one recorded since 1911.

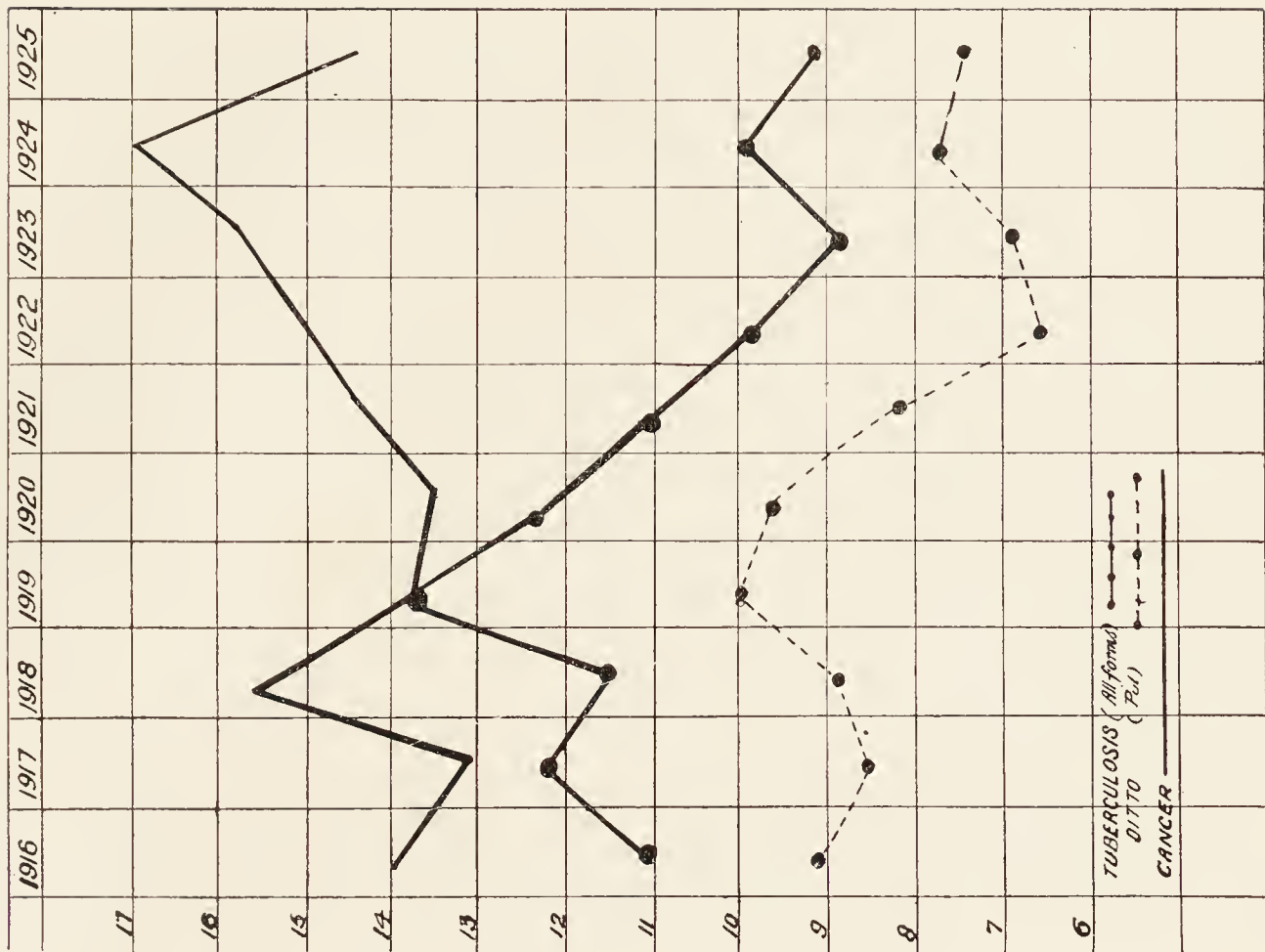
It is significant that in spite of the slight increase of the birth-rate in the County as a whole there is a fall in the two chief urban areas, *i.e.*, in Boston and Spalding.

The following table shows the birth-rates in the various districts of the County.

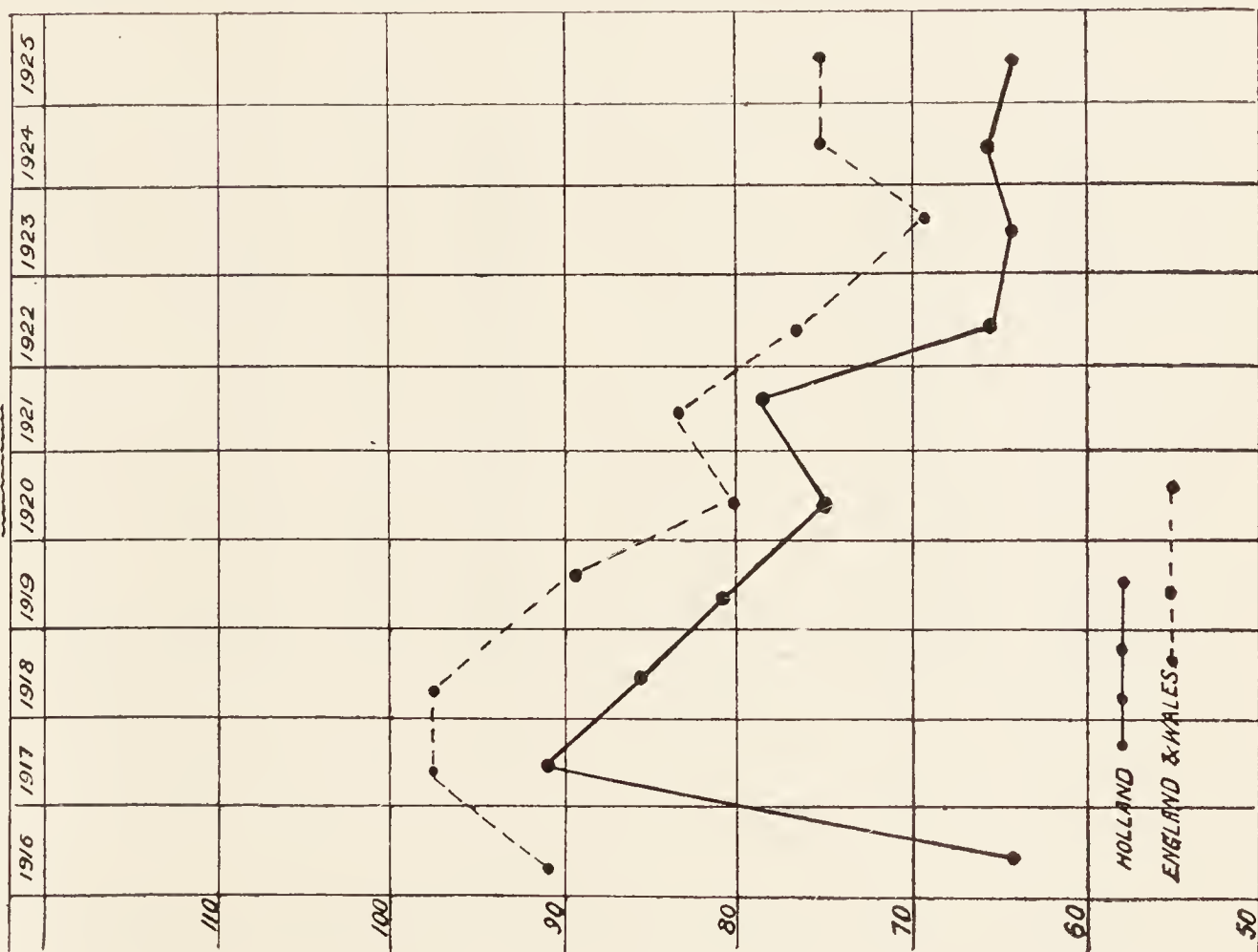
Urban Disrticts.		Rural Districts.	
Boston .....	20.8	Boston .....	20.2
Spalding .....	18.3	Spalding .....	22.7
Holbeach .....	22.4	East Elloe .....	24.0
Long Sutton .....	16.7	Crowland .....	24.8
Sutton Bridge .....	24.5		
Whole County 21.3			

As will be seen from the charts on page 13 the fall in the birth-rate since 1911 is not peculiar to this area but is taking place in England and Wales as a whole. The rise in the birth-rate during or immediately following a war is not unusual, but the steady decline since 1919 (excepting a slight rise in 1945) is a matter for some misgiving. As a nation becomes more prosperous or returns even gradually to a state of prosperity the birth-rate tends to fall, but the fall experienced by this country is not due solely to this factor. There is no doubt that prevention of conception by artificial means is materially affecting the birth-rate in most classes of the community, but more especially in those classes from which the State can legitimately expect to have a steady stream of fit potential citizens. This is a matter of grave concern, for a nation whose birth-rate continues steadily to fall must in the natural course of events give place to a nation which is more prolific.

*Rates per 10,000 from TUBERCULOSIS DISEASES  
and CANCER in the County of Holland, during 10 years  
1916 - 1925*



*INFANTILE MORTALITY RATES per 1000 registered BIRTHS for 10 YEARS  
1916 - 1925*





There is much evidence to show that widespread knowledge of artificial means of conception<sup>control</sup> in the community tends to increase promiscuous relations between the sexes and so to spread venereal disease. " 'The race moves forward on the feet of little children ' " and the outlook for a nation is indeed gloomy if these little children are not forthcoming. One has not to look far in order to see the evil effects upon national life produced by artificial conception methods, or what is commonly called birth control. France has seen that such a state of affairs means national suicide (in 1920 <sup>France</sup>conception was made a criminal offence) and is doing all she can by grants from the State in order to put a premium upon motherhood. The practice of birth control if carried out to its logical conclusion means depopulation with the consequent danger of the yellow and black races over-running the white, and last, but by no means least, the degradation of women.

**Table showing birth-rate in Holland County since 1911 compared with that in England and Wales for the same period.**

Year	Population	No. of Births	Birth-Rate	Rate for England and Wales
1911	82,996	2175	<b>26.2</b>	24.5
1912	83,543	1995	<b>23.9</b>	23.8
1913	84,104	2015	<b>24.0</b>	24.0
1914	84,672	2067	<b>24.4</b>	23.7
1915	81,052	1849	<b>22.8</b>	21.9
1916	85,372	1824	<b>21.4</b>	20.9
1917	85,577	1534	<b>17.9</b>	17.8
1918	86,097	1591	<b>18.5</b>	17.7
1919	85,277	1629	<b>19.1</b>	18.5
1920	85,125	2105	<b>24.7</b>	25.5
1921	85,461	2061	<b>24.1</b>	22.4
1922	86,051	1966	<b>22.8</b>	20.4
1923	86,660	1898	<b>21.9</b>	19.7
1924	87,400	1817	<b>20.7</b>	18.8
1925	87,680	1866	<b>21.3</b>	18.3

## Birth, Death and Infant Mortality Rates for Urban and Rural Districts since 1911.

Urban Districts				Rural Districts		
Year	Birth Rate	Death Rate	Infant Mortality Rate	Birth Rate	Death Rate	Infant Mortality Rate
1911	24.5	17.1	158.4	27.4	13.3	87.3
1912	22.5	14.2	94.4	24.9	12.4	87.1
1913	23.1	13.8	109.3	24.6	12.8	83.5
1914	23.5	14.7	113.3	25.1	12.7	73.5
1915	20.8	17.2	103.0	24.3	13.9	88.0
1916	20.6	14.2	69.4	21.9	12.1	59.2
1917	17.3	14.1	103.6	18.9	10.8	81.7
1918	17.6	15.3	107.2	19.1	14.4	71.0
1919	18.1	13.9	74.8	19.8	10.8	85.4
1920	25.2	12.9	84.3	24.3	11.2	67.4
1921	23.1	13.0	80.9	24.8	9.9	75.1
1922	22.5	14.2	62.0	23.1	11.6	67.4
1923	21.6	12.4	62.6	22.0	11.1	67.4
1924	19.9	11.7	57.9	21.2	11.7	71.1
1925	<b>20.2</b>	<b>14.0</b>	<b>66.9</b>	<b>22.1</b>	<b>9.9</b>	<b>45.0</b>

### ILLEGITIMATE BIRTHS.

There were 113 illegitimate births in the County during 1925, a proportion of 60.5 per 1,000 registered births. Of these illegitimate births 45 occurred in the urban districts and 67 in the rural districts.

### Number of legitimate and illegitimate births for each district in the year 1925.

Urban Districts.				Rural Districts.			
		Leg.	Illeg.			Leg.	Illeg.
Boston .....		319	17	Boston .....		443	26
Spalding .....		185	14	Spalding .....		293	18
Holbeach .....		118	10	East Elloe.....		225	15
Long Sutton .....		52	3	Crowland .....		61	8
Sutton Bridge .....		57	2				
Total .....		731	46	Total .....		1022	67

The district showing the highest illegitimate birthrate is Crowland where 11.7 per cent. of the total number of births registered were illegitimate.

The infantile mortality rate amongst the illegitimate is always higher than the general infantile mortality rate (in 1925 the rate for legitimate births was 48 and for illegitimate 141).

It will thus be seen that approximately three times as many illegitimate children die during the first year of life as do legitimate ones, and it may be safely presumed that the surviving children are proportionately sickly.

### DEATHS.

During the year 1925, 991 deaths were registered in the County as compared with 1,008 in the previous year. There were however, 92 deaths registered in the County of persons domiciled in other areas, and 127 deaths registered in the areas of persons resident in the County. Thus the correct figure of deaths is 1,026, giving a rate of 11.7 per 1,000 of the population, compared with 11.7 for the previous year. The standardised death-rate for the whole county for 1925 is 9.9 per 1,000.

It is satisfactory to note that the death-rate for the County is considerably lower than that for England and Wales (12.2) for the year 1925.

**Table showing Death-rate in Holland County since 1911 compared with that for England and Wales for the same period.**

Year	Population	No. of Deaths	Death-Rate Administrative Area	Death-Rate England and Wales
1911	82,996	1256	<b>15.1</b>	14.6
1912	83,543	1108	<b>13.3</b>	13.3
1913	84,104	1118	<b>13.3</b>	13.8
1914	84,672	1154	<b>13.6</b>	14.0
1915	81,052	1250	<b>15.4</b>	15.7
1916	85,372	1116	<b>14.2</b>	14.4
1917	85,577	1038	<b>13.5</b>	14.4
1918	86,097	1344	<b>17.5</b>	17.6
1919	85,277	1086	<b>13.3</b>	13.7
1920	85,125	1024	<b>12.0</b>	12.4
1921	85,461	987	<b>11.5</b>	12.1
1922	86,051	1137	<b>13.1</b>	12.8
1923	86,660	1019	<b>11.8</b>	11.6
1924	87,400	1025	<b>11.7</b>	12.2
1925	87,680	1066	<b>11.7</b>	12.2



## INFANTILE DEATH-RATE.

In 1924, 117 infants under one year of age died, giving a rate of 63 as compared with 65 for the previous year. The corresponding rate of mortality for England and Wales during 1925 was 75.

The infantile mortality rate for the urban districts during 1925 was 66.9, and for the rural districts 48. The following table shows a wide variation in the infantile mortality rate for the various districts, which is, to a large extent, due to local conditions.

### Infantile mortality rate for the various districts in the year 1925.

Urban Districts.		Rural Districts.	
Boston .....	74	Boston .....	62
Spalding .....	70	Spalding .....	48
Holbeach .....	86	East Elloe .....	58
Long Sutton .....	127	Crowland .....	14
Sutton Bridge .....	17		
Whole County 63			

It is regrettable that there should be such a marked rise in the infant mortality in Spalding, Holbeach and Long Sutton Urban Districts.

In Spalding and Long Sutton Infant Welfare Centres are in operation and one cannot help but feel that the mother who is most urgently in need of advice in infant nurture is not making use of the facilities provided.

It should be borne in mind, however, that where the total number of births in any area during one year is a small one, even a small increase in the deaths under one year of age will produce a marked increase in the infantile mortality rate.

As I mentioned in my last report, a large number of mothers work on the land and leave their infants in charge of some old woman, who is paid a small sum of money for her trouble. This practice is, I am convinced, largely accountable for much infant sickness and even death.

**Table showing Infantile Mortality-rate in Holland County since 1911, compared with that in England and Wales for the same period.**

Year	Population	No. of Births	Deaths under one year	Infant Mortality Rate	Inf. Mortality Rate for England and Wales
1911	82,996	2175	255	<b>117</b>	130
1912	83,543	1995	180	<b>90</b>	95
1913	84,104	2015	191	<b>95</b>	109
1914	84,672	2067	188	<b>91</b>	105
1915	81,052	1849	174	<b>94</b>	110
1916	85,372	1824	116	<b>64</b>	91
1917	85,577	1534	146	<b>91</b>	97
1918	86,097	1591	137	<b>86</b>	97
1919	85,277	1629	132	<b>81</b>	89
1920	85,125	2105	158	<b>75</b>	80
1921	85,461	2061	160	<b>78</b>	83
1922	86,051	1966	128	<b>65</b>	77
1923	86,660	1898	121	<b>64</b>	69
1924	87,400	1817	119	<b>65</b>	75
1925	87,680	1866	117	<b>63</b>	75

TABLE B.

## VITAL STATISTICS FOR THE YEAR 1925.

## Urban and Rural Districts.

Area.	Area in acres.	Persons per acre.	Structurally separate dwellings occupied at Census, 1921.	Persons per family at Census, 1921.	Population, Census, 1921.	Population estimated to the middle of 1925.	Births.		Deaths under one year of age.		Nett deaths at all ages belonging to the districts.	Nett death rate.	Death rate from Pulmonary Tuberculosis per 1000 population.	Death rate from all tubercular diseases per 1000 population.	
							No.	Rate.	No.	Rate per 1000 births reg'd.					
Urban Districts.															
Boston (Borough) .. .. .	2727	5.9	3994	4.1	16102	16100	336	20.8	22	74	249	15.4	1.20	1.60	
Spalding .. .. .	10747	1.0	2591	4.0	10703	10890	199	18.3	14	70	154	14.1	.73	.83	
Holbeach .. .. .	22666	.2	1257	4.1	5382	5706	128	22.4	9	86	64	11.2	.88	.88	
Long Sutton .. .. .	3931	.8	702	4.4	3192	3298	55	16.7	6	27	43	13.0	1.2	1.5	
Sutton Bridge .. .. .	6176	.4	548	4.0	2342	2406	59	24.5	1	17	29	12.1	2.10	2.10	
Rural Districts.															
Boston .. .. .	85020	.3	5145	4.1	21962	22720	469	20.2	24	62	225	9.9	.57	.80	
Spalding .. .. .	65526	.2	3073	4.2	13381	13720	311	22.7	13	48	136	9.1	.51	.73	
East Elloe .. .. .	52877	.2	2085	4.5	9483	10050	240	24.0	11	98	93	9.3	.19	.19	
Crowland .. .. .	13450	.2	684	4	2707	2790	69	24.8	1	64	33	8.2	.72	.72	
Whole Country .. .. .	263120	.3	20079	4.1	85254	87680	1866	21.3	101	63	1026	11.7	.75	.93	





TABLE C.

## CAUSES OF DEATH DURING THE YEAR 1925.

## Urban and Rural Districts.

Areas.	Enteric Fever.	Small Pox.	Measles.	Scarlet Fever	Whooping Cough	Diphtheria and Croup.	Influenza.	Encephalitis Lethargica.	Meningococcal Meningitis.	Tuberculosis of Respiratory System.	Other Tuberculosis Diseases.	Cancer, Malignant Disease.	Rheumatic Fever.	Diabetes.	Cerebral Hæmorrhage.	Heart Disease.	Arterio-Sclerosis.	Bronchitis.	Pneumonia (all forms).	Other Respiratory Diseases.	Ulcer of Stomach or Duodenum.	Diarrhoea, etc. (under 2 years).	Appendicitis & Typhlitis.	Cirrhosis of Liver.	Acute and Chronic Nephritis.	Puerperal Sepsis.	Other accidents and diseases of pregnancy and parturition.	Congenital debility and malformation, premature birth.	Suicide.	Other deaths from violence.	Other Defined Diseases.	Causes ill-defined or unknown.	All causes.	
<b>Urban Districts.</b>																																		
Boston ..	..	..	2	2	2	1	8	..	..	20	6	32	2	1	25	19	2	17	17	4	3	2	1	1	7	..	..	9	..	9	56	1	249	
Spalding ..	..	..	8	..	..	..	3	1	..	8	1	20	..	1	3	28	7	6	9	3	3	1	..	2	5	1	1	6	..	6	30	1	154	
Holbeach ..	..	..	..	..	..	..	2	..	..	5	..	8	..	2	6	9	2	6	5	..	..	..	1	1	3	..	..	3	3	..	8	..	64	
Long Sutton ..	..	..	..	..	1	..	7	..	..	4	1	6	..	..	2	4	2	2	..	..	..	1	..	..	1	..	1	..	..	..	11	..	43	
Sutton Bridge ..	..	..	..	..	..	..	2	..	..	5	..	5	..	..	1	5	..	2	..	..	..	..	..	..	..	..	..	..	..	..	9	..	29	
<b>Rural Districts.</b>																																		
Boston ..	..	..	1	..	2	1	8	4	..	13	5	23	1	1	16	26	3	17	12	4	..	..	..	3	6	1	..	11	1	12	51	3	225	
Spalding ..	..	..	1	..	1	..	3	..	..	7	3	21	2	1	8	15	3	9	2	3	..	2	1	..	6	1	..	4	..	7	36	..	136	
East Elloe ..	..	..	..	..	2	..	10	1	..	2	..	7	..	1	4	15	..	4	5	2	1	1	1	1	6	..	1	5	1	1	22	..	93	
Crowland ..	..	..	..	..	..	..	..	1	..	2	..	2	..	1	1	7	1	3	..	..	..	..	..	..	..	..	..	..	..	3	11	1	33	
Total ..	..	..	12	2	8	2	43	7	..	66	16	124	5	8	66	128	20	66	50	16	7	7	4	8	34	3	3	38	5	38	234	6	1026	



## INFECTIOUS DISEASES.

### SMALL POX.

Two cases of small pox were notified during 1925 : one in Spalding Urban District and one in Boston Rural District. In each case all contacts were promptly vaccinated and kept under observation and no further cases occurred.

Vaccination still continues to be neglected, and an outbreak of small pox would find a large portion of the population unprotected. If vaccination and re-vaccination are practised small pox is one of the diseases most easily combated.

At the present time there are two distinct types of small pox in the world, one severe and one mild in character. There is no doubt that the mild variety is small pox and not chicken pox because of the immunity against the disease shown by persons who have been successfully vaccinated and re-vaccinated. The present prevailing type of the disease is usually ushered in by the usual prodromata of small pox, viz., a sharp sudden illness accompanied by headache, fever, sweating, pain in the back and limbs and vomiting. Occasionally the patient is delirious. These symptoms may however, in some cases, be insignificant or even absent altogether. The severity of these symptoms is no criterion of the extent of the eruption, which differs little in the manner, time, and place of its appearance from that observed in the more severe attacks of the disease. Although the rash may appear on the arms and legs as much as twenty-four hours later than on the face, its distribution is exactly the same as in the classic type. The rash develops in a similar manner to that of the severe type, although the actual stages may be passed through in a much shorter time. It should also be noted that the rash may abort wholly or partially in any stage. This has led to an appearance suggestive of the "cropping" of chicken pox. Secondary fever is usually absent and generally speaking convalescence is rapid and uninterrupted.

The necessity for vaccination and re-vaccination cannot be too strongly urged at the present time. An epidemic of small pox if prolonged for any length of time becomes a drain upon the financial resources of a community, apart from the dislocation of business and trade which accompanies an epidemic.

Union.	Successful vaccinations in children under 14 during 1925	Conscientious objections during 1925
Boston .....	267	571
Spalding .....	61	410
Holbeach .....	115	370
Peterborough .....	96	114
(Crowland District)		
Total.....	539	965

### ENTERIC FEVER.

Enteric fever no longer figures as a serious cause of death as the following table shows, but it should be borne in mind that where primitive methods of excrement disposal obtain, as in many parts of the County, the possibility of an epidemic of this disease has always to be faced.

Year	Cases	Deaths	Case Mortality per cent.
1911 ..	28	3	10.7
1912 ..	20	5	25
1913 ..	12	3	25
1914 ..	22	5	22.8
1915 ..	10	2	20
1916 ..	11	3	27.3
1917 ..	7	2	28.6
1918 ..	10	4	40
1919 ..	5	—	—
1920 ..	6	2	33
1921 ..	5	2	40
1922 ..	7	—	—
1923 ..	6	—	—
1924 ..	2	1	50
1925 ..	2	—	—



### SCARLET FEVER.

Notifications of this disease numbered 137 during the year 1925, and of these, 93 occurred in the Borough of Boston and the adjoining rural district.

Year	Cases	Deaths	Case Mortality per cent.
1911 ..	95	—	—
1912 ..	151	2	1.3
1913 ..	123	1	.8
1914 ..	351	10	2.9
1915 ..	419	7	1.7
1916 ..	148	2	1.5
1917 ..	76	—	—
1918 ..	60	2	3.3
1919 ..	67	—	—
1920 ..	144	2	1.4
1921 ..	115	1	.9
1922 ..	124	—	—
1923 ..	83	—	—
1924 ..	139	1	.7
1925 ..	137	2	1.4

### DIPHTHERIA AND MEMBRANOUS CROUP.

The number of notifications was considerably more during 1925 than in the previous year, although the case mortality fell from 10.5 to 2.7%. If anti-toxin is administered in all doubtful as well as definite cases of the disease the possibility of a fatal ending is very much diminished.

Year	Cases	Deaths	Case Mortality per cent.
1911 ..	51	6	11.7
1912 ..	104	4	3.8
1913 ..	156	15	9.6
1914 ..	148	15	10.1
1915 ..	102	9	8.8
1916 ..	55	10	18.2
1917 ..	43	7	16.3
1918 ..	27	6	22.2
1919 ..	185	6	3.2
1920 ..	116	9	7.8
1921 ..	58	7	12.1
1922 ..	82	8	9.7
1923 ..	54	1	1.8
1924 ..	38	4	10.5
1925 ..	69	2	2.7

### PUERPERAL FEVER.

The term puerperal fever includes:—Pyaemia, Septicaemia, Saproaemia, Pelvic peritonitis, Perimetritis and Endo-metritis occurring in the Puerperium. Apart from these conditions, however, there is every reason to believe that many non-fatal cases are not notified. During the year 3 cases were notified, all of which died. These figures do not include deaths from other diseases and accidents of pregnancy and parturition, of which 3 occurred during the year.

Year	Cases notified	Deaths	Case mortality per cent.
1911 ..	2	2	100
1912 ..	3	1	33
1913 ..	2	1	50
1914 ..	4	1	25
1915 ..	3	2	66
1916 ..	2	—	—
1917 ..	2	—	—
1918 ..	2	2	100
1919 ..	2	1	50
1920 ..	4	3	75
1921 ..	1	1	100
1922 ..	—	—	—
1923 ..	1	1	100
1924 ..	4	1	25
1925 ..	3	3	100

At the present time there is much discussion with reference to the question of maternal mortality and morbidity. In 1924 in England and Wales living births numbered 729,933 and maternal deaths 2,847, or 3.9 per 1,000.

Puerperal sepsis accounted for approximately one-third and eclampsia for nearly one-fifth.

The deaths from other causes amounted to 1,305, equal to a rate of 1.7 per 1,000.

These figures do not give the whole picture, in that they do not indicate at all the large amount of suffering and ill-health consequent upon pregnancy. The extension of ante-natal and post-natal work, together with the provision of more beds for abnormal cases and for those cases in which housing conditions are bad, would do much to lessen many of these preventable conditions.

### MEASLES.

This disease is not notifiable in the County. During the latter part of the year the disease was epidemic in most parts of the County and 12 deaths were registered as a result of the disease. Because measles is such a common disease its seriousness is generally forgotten. It is one of the most fatal diseases which can affect children under two years of age, by reason of the complications, such as broncho-pneumonia and bronchitis. Adequate nursing is essential if these complications are to be avoided, and it is important to note that a long period of convalescence is often necessary before a child is really fit to return to school. The longer an attack can be deferred in a child's life the less likely is a fatal issue to ensue.

### WHOOPING COUGH.

This disease was epidemic in most parts of the County during the latter part of the year, concurrently with measles, and accounted for 8 deaths. Like measles it is the complications which kill, and in order in some measure to prevent the occurrence of such complications, the greatest care should be taken of all young children suffering from the disease.

### PNEUMONIA (all forms).

During the year 29 cases of pneumonia were notified, whilst 50 deaths were registered.

This increase in the number of deaths is partly due to the epidemics of measles and whooping cough which have occurred during 1925.

### ENCEPHALITIS LETHARGICA.

7 cases of this disease were notified during 1925 and all of them died, giving a case mortality of 100%.

### DIARRHOEA.

Diarrhoea was responsible for the deaths of 7 infants under 2 years of age. No epidemic of the disease occurred in any area of the County.

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### CANCER.

During the year 125 deaths from cancer were registered as compared with 147 in 1924. This figure is 12% of the total deaths registered during 1925.

The mortality rate works out at 1.43 per 1,000, being a slight fall as compared with the previous year.



The following Table shows the death-rate from cancer since 1911 compared with similar figures for England and Wales.

Year	Death Rate per 1000 popn., Holland County.	Death Rate per 1000 popn., England and Wales
1911 ..	<b>1.14</b>	1.00
1912 ..	<b>1.29</b>	1.02
1913 ..	<b>1.08</b>	1.06
1914 ..	<b>1.22</b>	1.07
1915 ..	<b>1.26</b>	1.12
1916 ..	<b>1.39</b>	1.17
1917 ..	<b>1.31</b>	1.21
1918 ..	<b>1.55</b>	1.20
1919 ..	<b>1.36</b>	1.15
1920 ..	<b>1.34</b>	1.16
1921 ..	<b>1.44</b>	1.22
1922 ..	<b>1.50</b>	1.21
1923 ..	<b>1.57</b>	1.26
1924 ..	<b>1.68</b>	1.29
1925 ..	<b>1.43</b>	—

It will thus be seen that since 1911 the death-rate from cancer in the County has always been greater than that for the whole country and with the exception of 1925 has steadily risen year by year. In the present state of our knowledge the best hope of a cure lies in early diagnosis and removal (if possible) of the growth by surgical means.

Neglect to submit to treatment invariably means death. Unfortunately, however, in a large number of cases the early stages of growth of a cancer produce very little disability. It is therefore of great importance that the public should be instructed so that they may appreciate the importance of the early signs and symptoms of the disease in the more common sites, *e.g.*, tongue, lip, bowels, breast, and womb.

**Table showing the chief killing diseases in Holland County during 1925.**

Disease.	Total number of deaths.
<b>Heart Disease</b> .....	<b>128</b>
Cancer .....	125
Tuberculosis (all forms) .....	82
Bronchitis .....	66
Pneumonia (all forms) .....	50



TABLE D.

## INFECTIOUS DISEASES NOTIFIED IN HOLLAND COUNTY FOR THE YEAR ENDING 31st DECEMBER, 1925.

Boroughs and Urban Districts.	Small Pox	Diphtheria (including Membranous Croup).	Erysipelas.	Scarlet Fever.	Enteric Fever.	Puerperal Fever.	Cerebro-spinal Fever.	Encephalitis Lethargica	Ophthalmia Neonatorum.	Pulmonary Tuberculosis.	Other forms of Tuberculosis.	Chicken-pox.	Dysentery.	Trench Fever.	Pneumonia	Malaria.	Whooping Cough.	Acute Poliomyelitis.	Total	Whether there is an Isolation Hospital for infectious diseases.	Total available beds.	Number of diseases that can be treated concurrently.
Boston .. ..	..	4	8	53	1	..	..	..	..	35	11	82	..	..	9	..	2	..	205	Yes	*17	2
Spalding .. ..	1	46	6	15	..	..	..	1	1	10	2	16	..	..	1	..	..	..	99	Yes	6	1
Holbeach .. ..	..	..	..	..	..	..	..	..	..	4	2	3	..	..	..	..	23	..	32	..	†10	2
Long Sutton .. ..	..	..	..	..	..	..	..	..	..	5	..	..	..	..	..	..	..	..	5	..	‡	..
Sutton Bridge .. ..	..	1	..	..	..	..	..	..	..	3	1	..	..	..	4	..	..	..	9	..	‡	..
Rural Districts.																						
Boston .. ..	1	10	7	40	1	2	..	4	..	23	7	26	..	..	8	..	..	..	129	..	*	..
Spalding .. ..	..	7	..	26	..	1	..	..	1	14	2	..	..	..	2	..	..	..	53	Yes	§4	1
East Elloe .. ..	..	1	1	3	..	..	..	1	1	6	..	..	..	..	1	..	..	1	15	..	‡	..
Crowland .. ..	..	..	3	..	..	..	..	1	..	4	1	56	..	..	4	..	..	..	68	..	†	..
	2	69	25	137	2	3	..	7	3	104	26	183	..	..	29	..	25	1	615			

\* These contribute to a joint Hospital situated at Boston.

‡ These contribute to a joint Hospital situated at Fleet (Holbeach).

† This Authority pays a yearly fee for the admission of small-pox and other fever cases to the Peterborough Fever Hospital.

§ This Authority contributes to a joint Hospital situated at Bourne.



## MEANS OF CONTROL OF INFECTIOUS DISEASES.

### ISOLATION HOSPITALS.

Under Sec. 131 of the Public Health Act, 1875, local authorities are empowered, separately or jointly, to provide hospital accommodation for their districts ; and under the Isolation Hospitals Acts, 1893 and 1901, County Councils are empowered to institute hospital districts consisting in each case of one or more local areas.

The hospital accommodation in the County is provided by two joint hospital districts and by one urban district.

In the north of the County a **joint hospital district** has been formed to include the **Boston Urban and Rural and the Sibsey Rural Districts** (total population served being 42,848), the last named district being in the County of Lindsey.

The hospital is an adapted farm-house and stands in grounds of nearly two acres in extent, about half-a-mile from the outskirts of the town. It contains four wards with seventeen beds. A steam disinfecter is installed, and patients are brought to the hospital in a horse ambulance. The Boston water supply is laid on, and sewage is disposed of to a cesspool on the estate. A permanent nursing staff (one woman) is maintained.

The time has arrived when the Joint Hospital Board should seriously consider the provision of a motor ambulance. \*

At the moment much time is wasted in bringing patients to the institution from outlying villages, in fact, in some cases the journey occupies as much as four hours. Apart from the waste of time, there is a serious risk to patients who are extremely ill, when suffering, for example, from severe attacks of diphtheria or enteric fever.

Adjoining this hospital are the small-pox hospital (2 wards with 6 or 8 beds) and the Port Sanitary Hospital (2 wards with 8 beds), both modern brick and slate buildings. It is unfortunate that the small-pox hospital should have been erected so near to the other buildings (30 yards). This proximity must give rise to anxiety when cases of small-pox occur and other infectious diseases are nursed in nearby buildings.

\* A motor ambulance was ordered in Jan., 1926.

Another **Joint Hospital District**, consisting of the **Holbeach Long Sutton, and Sutton Bridge Urban and East Elloe Rural Districts**, serving a population of 21,460, has an isolation hospital at **Fleet**, near Holbeach. This is a permanent structure of brick and slate, containing two wards (8 beds and 2 cots) with accommodation for nurse and caretaker. Water supply is from the rainfall and subsoil water, sewage is disposed of to a dry well. No steam disinfecter is installed. The horse ambulance used for conveying patients is of so venerable an appearance that it might with advantage be replaced by a motor vehicle. This hospital makes no provision for cases of small-pox, although two of the contributory authorities, the Holbeach Urban District Council and the East Elloe Council own tents for the reception of cases of small-pox. The tent of the former Council has two beds and that of the latter one bed.

This arrangement is far from satisfactory, and in practice it is inevitable that should an outbreak of small-pox occur in this area that the hospital at Fleet would be used for the reception of such cases and that any patients already under treatment in the hospital would have to be removed to their homes.

The **Spalding Urban District Isolation Hospital** is a wooden pavilion containing two wards (4 beds and 2 cots), with accommodation for nurse and caretaker. The water supply is from the rainfall, and sewage is disposed of on the land. A horse ambulance is kept in Spalding. There is no steam disinfecter. The hospital is used when required for cases of small-pox.

This arrangement is unsatisfactory and would necessitate the removal of patients to their homes in the event of an outbreak of small-pox occurring when the hospital is already occupied.

Since the hospital was erected many houses have been built in close proximity and steps should be taken at once to remove this building to a more suitable site.

The **Spalding Rural District** has entered into an arrangement whereby cases of infectious diseases (including small-pox) occurring in that area are removed to the isolation hospital at Bourne, in the County of Kesteven.

The **Crowland Rural District Council** has arranged to send cases of infectious disease (including small-pox) to the Peterborough City Fever Hospital.

The **Wisbech Port Sanitary Authority** has a small brick hospital at **Wingland**, containing 4 beds together with a caretaker's house.



The existing deficiencies in hospital accommodation can be met by one of two ways—

(a) By the combination of those districts, which are at present without adequate accommodation, with other districts which possess hospitals.

For this purpose the Fleet Hospital could be enlarged and its usefulness thereby increased, as not more than one disease can be at present treated there without taking undesirable risks.

Provision would also have to be made for the reception of small-pox cases, and as the hospital is in an isolated position no difficulty in this score would be encountered. It is very desirable that a steam disinfecter should be installed and a motor ambulance provided.

(b) By erecting one hospital for the whole County, e.g., in the Fosdyke area. Such an institution should have accommodation for 60 beds and a permanent resident nursing staff. One motor ambulance would be able to serve the whole County. Provision at the hospital in the form of small pavilions could be made for the reception of advanced cases of tuberculosis, so that the nursing staff would be fully occupied during the times when infectious diseases were not epidemic in the area. Such an institution would provide accommodation for all cases of infectious disease from all areas in the County. Numerous small hospitals in an area are never satisfactory, are not economical either, and generally fail when infectious diseases are exceptionally prevalent.

The small-pox accommodation in the north of the County is good but in the south of the County it is not at all satisfactory, and the difficulty could be overcome by moving along the lines mentioned in the foregoing paragraph.

## DISINFECTION.

Disinfection if it is to be done at all should be thorough. If done in a perfunctory fashion with inadequate disinfectants it gives a sense of false security and epidemic disease may spread indefinitely. Inefficient disinfection is a waste of time and money.

Disinfection by means of saturated steam is the only sure way of dealing with clothes, bedding and other articles, whilst formalin in the form of a fine spray is the most efficient for applying to walls and other surfaces.

Such means do not of course relieve persons of the obligation to make free use of sunshine, soap and water in the case of all articles which can be so dealt with. In some cases in the County sulphur candles are burnt for the disinfection of rooms and clothing. In the case of the latter articles the procedure is a waste of time and money and it is a debateable point whether even rooms are by this means adequately disinfected. The more thorough process of spraying walls with formalin is adopted in other districts.

### NOTIFICATION.

The diseases of which notification is required by the Infectious Diseases Notification Acts of 1889 and 1899 are small-pox, cholera, diphtheria and membranous croup, erysipelas, scarletina or scarlet fever, typhus, typhoid (including paratyphoid), relapsing, continued and puerperal fevers.

Diseases notifiable under regulations made by the Ministry of Health (formerly Local Government Board) are plague, cerebro-spinal fever, acute poliomyelitis, acute polio-encephalitis, encephalitis lethargica, tuberculosis, ophthalmia neonatorum, dysentery malaria, trench fever, and acute primary and acute influenzal pneumonia.

The notification of measles and German measles is not obligatory except in those areas which have adopted the procedure. There is no object in notifying these diseases unless adequate hospital accommodation and efficient domiciliary nursing are available. These two latter diseases are not notifiable in the County.

### BACTERIOLOGICAL DIAGNOSIS.

If the notification of infectious diseases is to be taken full advantage of there must be prompt isolation of the infected, disinfection of the premises and adequate supervision of all contacts. Many doubtful cases occur and it is often only by use of bacteriological methods that a positive diagnosis can be made. The Boston, and Spalding Urban and the Boston, Spalding and East Elloe Rural District Councils have made arrangements for bacteriological examinations to be made in doubtful cases of enteric fever, diphtheria and other diseases, and the Long Sutton Urban District Council has made similar arrangements in respect of diphtheria only. These arrangements have generally been made with the Clinical Research Association, and now apply to more than half the County, the Councils which have as yet taken no steps in the matter being those of the Holbeach and Sutton Bridge Urban and the East Elloe and Crowland Rural Districts,



In Boston and Spalding Urban and Boston Rural Districts the positive diagnosis of diphtheria is followed up by the free provision of diphtheria antitoxin. In the Long Sutton and Sutton Bridge Urban and Crowland Rural Districts no such provision is made. Arrangements made by the County Council exist whereby sputa sent to the Clinical Research Association by medical practitioners are examined for the presence of the bacillus free of charge.

## **INFECTIOUS DISEASES IN ELEMENTARY SCHOOLS.**

All the schools in the County except in the Borough of Boston which has a separate Education Authority, are in the Administrative Area of the Holland County Education Committee and the County Medical Officer of Health is also County School Medical Officer.

Arrangements exist for the notification by and to the School Medical Officers and Medical Officers of Local Authorities of all children excluded from school on grounds of infectivity and to them of the effects of epidemic disease in school attendance. Medical Officers of Health are notified in all cases where schools are closed by the School Medical Officer.

Directions have been issued to head teachers in County schools as to the exclusion of children during outbreaks of the commoner infectious diseases, and as to the earliest date of their admission to school. Directions are also given with reference to the course to be followed in dealing with contacts.

The schools sometimes exercise a considerable influence in spreading the infection of certain diseases, but this influence is probably not so great as was at one time thought to be the case.

Improved methods of diagnosis, greater vigilance on the part of teachers, sanitary officials and school medical officers and a more exact knowledge of the infectivity of some of the diseases to which children are liable, such as scarlet fever and diphtheria, have all contributed to lessen the need for closure for these diseases.

Unfortunately school managers are apt to be seized with panic on the occurrence of infectious disease in the schools, and sometimes exert their influence to obtain closure, when the conditions really do not justify such a procedure.

Now that the Board of Education has altered its regulations for grant in respect of diminution of school attendances caused by epidemics, the temptation to close schools lest grants should be endangered, has been removed.

Whilst schools remain open successful efforts can be made to separate the infected from the non-infected, whereas when they are closed, particularly in urban centres, the facilities for infection are much increased amongst a certain section of the school population.

## EXISTING WATER SUPPLIES.

### BOSTON (M.B.).

The Boston Waterworks Company supplies water to the Borough and to Skirbeck and Skirbeck Quarter, portions of the Boston Rural District which are really suburbs of the town.

I am indebted to T. H. Tyson, Esq., M.I.M. & C.E., etc., for particulars with reference to the work of the Company.

The source of supply of water is from Miningsby Beck, the extent of the gathering ground being approximately 3 square miles. The storage reservoir at Revesby is 137.4 O.D. the general level of Boston being 10 O.D., and the distance from the reservoir is 13 miles. Owing to the high situation of the reservoir no pumping is required in order to maintain a constant supply of water.

The top-water area of the reservoir is 36 acres with a capacity of 85 million gallons.

The average annual rainfall at Revesby from 1914-24 inclusive was 25.4 inches and the daily consumption of water is approximately 400,000 gallons.

The water is conveyed during the first 7 miles by a 12 inch main and for the remaining 6 miles by two 12 inch mains.

The water from the reservoir is first passed through a settling tank (equal to 6 hours' supply) on to coarse gravel filters (2) and thence on to slow sand filters. From these sand filters the water passes to clear water tanks, where it is chlorinated by means of liquid chlorine through the medium of Paterson's Chloronome. The amount of chlorine added varies with the seasons but is generally about .75 parts per million.

After traversing 13 miles of trunk mains the water is passed through a battery of three Bell's Patent Mechanical Filters. Each filter is 8 feet in diameter and contains 7 tons of Leighton Buzzard sand. Sulphate of alumina (the best known coagulant) is pumped on to the filter beds and removes all suspended matter and up to 95% of bacteria. The filters are cleansed daily.



The following is a copy of the Analyst's Report on the water immediately after leaving the mechanical filters and is dated May, 1925. (All figures given are in parts per 100,000).

The water is bright and clear of normal colour and is inodorous.

Total solids .....	26.4
Chlorine as chlorides .....	2.3
Nitrogen as nitrates .....	.08
Nitrites .....	absent
Free ammonia .....	.002
Albuminoid ammonia .....	.009
Oxygen absorbed in 73 hours 37° C. ....	.110
Hardness—Permanent .....	6½°
Temporary .....	13°
Total .....	19.5°
Iron .....	.02

No. of bacteria per c.c. on gelatine in 3 days—73.

No. of bacteria per c.c. on agar in 24 hours—11.

Bacillus Coli—Absent in 100 c.c.'s.

Bacillus Enteritidis Sporogenes—Absent in 100 c.c.'s.

*Report.*—The finally treated water was good both chemically and bacteriologically, and is quite well adapted for all purposes of a public supply, being pure and wholesome and not unreasonably hard.

(Signed) JOHN C. THRESH.

JOHN F. BEALE.

Samples of water from a tap connected directly to the main were examined chemically and bacteriologically by the Royal Institute of Public Health on behalf of the Corporation of the Borough of Boston.

The reports which are given below indicate that the water at the tap, even after the latter was sterilized, is not of such good quality as a sample taken immediately after leaving the mechanical filters. The presence of the Bacillus Coli (a sign of excremental contamination of either animal or human origin, or both) is disquieting.

## ROYAL INSTITUTE OF PUBLIC HEALTH.

Report from Chemical Laboratories.

Name of Sender—Borough of Boston.

Date received—June 16th, 1925.

Sample obtained from tap in the office of the Medical Officer of Health, Municipal Buildings, connected direct to main.

Reaction—Alkaline.

Colour—Clear pale blue.

Suspended matter—A trace.

Taste—Nil.

Odour when warmed to 37° C.—Nil.

parts per 100,000.

Total solids .....	27.5
Loss on ignition (after recarbonating) .....	3
Chlorine .....	2.3
Chlorine as NaCl. ....	3.78
Nitrites .....	nil
Nitrogen as Nitrates .....	.03
Saline Ammonia .....	.001
Albuminoid Ammonia .....	.015
Oxygen absorbed in 3 hours at 37° C. ....	.104
Hardness—Total .....	14.60
Temporary .....	5.20
Permanent .....	9.40
Poisonous metals .....	nil

*Remarks.*—The figures for the albuminoid ammonia and oxygen absorbed are above the standard and indicate an excess of organic matter. From consideration of the above data in augmentation with the Bacteriological Report this water is not altogether satisfactory.

(Signed) WILLIAM R. SMITH, Kt., M.D., etc., Principal.

The Bacteriological Report referred to in the remarks above is as follows :—

On gelatine plates kept for four days at 22° C., 3 colonies per c.c. developed and of these none liquified gelatin. On agar plates kept for 24 hours at 37° C., 1 colony per c.c. developed.

Bacillus coli present in 100 c.c.'s.

*Remarks.*—The small number of organisms on agar and gelatin is a good feature in this sample of water. The presence of 13 coli in 100 c.c.'s is, however, unsatisfactory, but in view of the small bacterial count this unfavourable feature can possibly be remedied.

(Signed) WILLIAM R. SMITH, Kt., M.D., etc., Principal.

On July 3rd, 1925, another sample of water taken from a tap on the ground floor of a house in Church Close, Boston, the tap being first sterilized, was submitted to the Royal Institute of Public Health for chemical and bacteriological examination.

Reaction—Alkaline.

Colour—Clear pale green.

Suspended matter—Nil.

Taste—Nil.

Odour when warmed to 37° C.—Nil.

	parts per 100,000.
Total Solids dried to 100° C. ....	27.00
Less on ignition (after recarbonating)	3.50
Chlorine .....	2.30
Chlorine as NaCl. ....	3.78
Nitrites .....	Nil
Nitrogen as nitrates .....	.01
Saline Ammonia .....	.001
Albuminoid Ammonia .....	.0206
Oxygen absorbed in 3 hours at 37° C. ....	.11
Hardness—Total .....	13.80
Temporary .....	4.30
Permanent .....	9.50
Poisonous metals .....	Nil

*Remarks.*—The figures for the albuminoid ammonia and oxygen absorbed are above the standard and indicate an excess of organic matter. From consideration of the above data in conjunction with the bacteriological Report, this water is not altogether satisfactory.

(Signed) WILLIAM R. SMITH, Kt., M.D., etc.,  
Principal.

The Bacteriological Report on the same sample is as follows :—

On gelatin plates kept for 4 days at 22° C., 12 colonies per c.c. developed, and 13 or 16% liquified gelatin. On agar plates kept for 24 hours at 37° C., 10 colonies per c.c. developed.

Bacillus coli present in 100 c.c.

*Remarks.*—There is no appreciable change in the water since the examination of the 22nd June, 1925, except that there are a few more colonies on both agar and gelatin. The presence of B. coli is still unsatisfactory.

(Signed) WILLIAM R. SMITH, Kt., M.D., etc.,  
Principal.



The question of increasing the storage capacity at Revesby is, I understand, receiving consideration by the directors of the Waterworks Co. It is hoped that such increased capacity will be forthcoming in the near future so that a period of drought will not render the Borough practically waterless as has happened on one occasion within recent years.

Many complaints have been made during the year with regard to the lack of pressure in the mains, and in quite a number of houses water-closets situated upstairs are practically useless as the flushing cisterns take such a long time to fill.

### BOSTON RURAL DISTRICT.

Skirbeck and Skirbeck Quarter, the most populous parts of the District, are suburbs of Boston and obtain their supply from the Boston Waterworks Company. The supply of the remainder of the District is from the sources commonly made use of in the country—shallow well water, and rain water stored in cisterns.

### SPALDING URBAN DISTRICT.

The area is supplied from an artesian well (100 feet deep) in the Lincolnshire Limestone at Manning Road, Bourne. The bore has a diameter of 13 inches and the water is conveyed in pipes (12 inch) a distance of 10 miles to Spalding.

A recent chemical and bacteriological examination of the water taken at the bore is as follows :—

	parts per 100,000.
Total Solids .....	45.5
Ammonia, Saline .....	.007
Ammonia, Albuminoid .....	trace
Chlorine .....	2.14
Nitrogen as nitrates.....	Nil
Nitrites .....	Nil
Oxygen absorbed in 4 hours at 80° F. ....	.078
Hardness—Total .....	29.1
Permanent .....	10.1
Physical characters—Turbid ; sediment of Iron rust.	
Bacteria per c.c.=1.	
B. coli absent in 100c.c.	

The Analyst remarks that “ This water is of excellent organic quality and is free from all traces of pollution by sewage, animal, drainage or surface impurity. Bacteriologically it is practically sterile. The iron rust present appears to be derived from the bore tube. I am of opinion that the water is pure and wholesome and quite suitable for drinking and all purposes of a public supply.”



## SPALDING RURAL DISTRICT.

This Authority has three water bores and about 48 miles of water mains in the following districts :—The Jockey Drove Bore supplies the villages of Pinckbeck, Weston, Moulton, Weston Hills, Moulton Eaugate, Moulton Chapel, Moulton Sea's End, and Cowbit. The Oatsheaf and Hop Pole Bores supply Deeping St. Nicholas and the Hop Pole District.

No. of houses supplied .....	573
No. of houses and farms .....	254
No. of grass fields .....	27
No. of bakehouses .....	12
No. of schools .....	10
No. of slaughterhouses .....	7
No. of factories .....	1
No. of greenhouses .....	1
No. of public houses .....	1
No. of village halls .....	1
No. of stations .....	1

The approximate number of people supplied is 3,308.

The Donington Water Company which obtains its supply from a bore two miles from the town of that name serves Donington, and the villages of Quadring and Gosberton.

The latest chemical analysis of this water which I have been able to obtain is dated 1922.

The Analyst's Report states that 4 samples of water were examined from the Bore, Donington, and Quadring and Gosberton respectively, and all four samples gave similar results :—

	parts per 100,000.
Chlorine .....	2.3
Oxygen absorbed .....	.005
Free Ammonia .....	.015
Albuminoid Ammonia .....	.004
Nitrates .....	Faint trace
Nitrites .....	Absent

These figures point to the water being of excellent organic purity.

The dissolved mineral matter did not, however, give uniform figures, viz. :—

	parts per 100,000.
Total Solids at Bore .....	34
Donington .....	36
Quadring .....	37
Gosberton .....	41

All the samples were practically clear when first drawn but on standing, with the exception of the first named, became more or less opalescent and gradually gave a brownish deposit in varying quality. This deposit was due to an iron compound.

An analysis of the mineral matter gave the following results :—

	Bore.	Donington.	Quadrang.	Gosberton.
Carbonate of Lime .....	23.0	23.0	23.0	23.0
Sulphate of Lime .....	1.3	1.3	1.3	1.3
Sulphate of Magnesia	5.4	5.4	5.4	5.4
Chloride of Sodium .....	3.8	3.8	3.8	3.8
Iron Compound .....	faint trace	2.0	3.0	7.0
Silicia, etc. ....	0.5	0.5	0.5	0.5
	<hr/> 34	<hr/> 36.0	<hr/> 37.0	<hr/> 41.0

The Analyst remarked as follows : “ The increase in the amount of solid matter is thus due to what has been picked up in the pipes. This may be somewhat objectionable but is not injurious and may easily be removed by passing the water through an active charcoal filter, or even by allowing the water to stand and deposit. Then as to the cause of the trouble. The water at the bore is fairly heavily charged with carbonic acid gas, which affects the iron with which it comes into contact, a soluble salt of iron being formed. This may, or may not be associated with a slight smell. I have made experiments to prove that this does take place. The water is of excellent purity, but there is unfortunately the slight drawback of the action on iron. This is often found in waters of this description and in some cases has been remedied.”

It would appear from this report that the water company will have seriously to consider the question of the mains either by preventing further action on the pipes or by laying fresh mains, the inner surfaces of which are not capable of being acted upon by the water.

The rest of Spalding Rural District is supplied by soft water cisterns, with very few hard water (surface) wells., These supplies are supplemented in most districts by the fresh water drains, most of which are fairly pure but liable to contamination at times.

### HOLBEACH URBAN DISTRICT.

There is no public water supply in this area. The district depends entirely upon such water as can be obtained from shallow wells or rain water stored in cisterns. These wells are about 8 to 12 feet deep in the silt and are loosely bricked. They possess the usual dangers of wells of this kind, and are exposed constantly to pollution from surface waters and proximity to privies, cess-pools or refuse heaps.

The rain water cisterns are easily contaminated as they are only lined with a layer of cement which easily cracks, and often owing to defective lids and absence of a cover, surface washings find entry.

In the country districts there is usually a sufficient supply of fairly good water, but in the town and more populous parts the supply is very bad, both in quantity and quality.

### **LONG SUTTON URBAN DISTRICT.**

There is no public piped water supply in this area. The only sources available are soft water cisterns and shallow wells which latter are liable to the usual forms of contamination.

### **SUTTON BRIDGE URBAN DISTRICT.**

This district is entirely dependent upon soft water from roofs and shallow well water, with all the attendant dangers of such wells situated in urban districts.

### **CROWLAND RURAL DISTRICT.**

This District derives its supply from—

1. The River Welland and various drains connected therewith.
2. Shallow wells.
3. Rain water.

The Welland receives the drainage of the Deepings, 8 miles above Crowland. As the current is slow and the river shallow there is always a risk of water-borne disease.

The water from shallow wells in the district is very hard and in the village is in many cases polluted and not fit for drinking purposes. Rainwater is the best obtainable, but, as in many cases, it is stored in underground cisterns, it is very liable to sewage pollution. Those domestic filters which are used are frequently of an obsolete and useless type. There is an artesian well in the village from which water is piped to stand-pipes in various streets. As, however, this water contains 200 grains of sodium chloride to the gallon, it is quite unfit for drinking purposes.

### **EAST ELLOE RURAL DISTRICT.**

There is no public water supply in this district. The existing supply is drawn from wells sunk to a depth of about twelve feet. These wells are not always adequately protected and are liable to sewage pollution. Rain water is stored in cisterns about six feet deep. In isolated cottages tubs are used, and these are often without protection.



## AVAILABLE SOURCES OF WATER SUPPLY.

### RAIN WATER.

However extensively public water supplies may eventually be distributed, there will always be numbers of houses in the rural districts, which will be inaccessible to such supplies, and for these the only safe source of supply is the rainfall. The disadvantages of this source are the possibility of a deficiency (and in this part of England the rainfall is small, the average being between 22.5 and 25 inches) and also the difficulty of maintaining a clean supply owing largely to the methods of storage adopted. Cisterns (built into the ground) are generally lined with a thin layer of cement which, after a time fractures, as it is not strong enough to resist the continual variations in pressure caused by the rise and fall of the subsoil water or "sock." This layer, also, is seldom carried high enough to prevent surface water washings from contaminating the water. Storage in tanks would remove all possibility of this kind of contamination, tanks being more accessible for cleansing purposes, and there is no reason why, with a suitable arrangement of tanks, there should not be a supply by tap within every cottage. Tanks should have tightly-fitting covers, and neglect in this respect has somewhat discredited storage above ground in this district. Greater care can also be exercised in preventing grosser impurities from reaching the store of water ; separators for this purpose are to be obtained, but some kind of coarse filter will, with a very small amount of attention, prevent much contamination of this kind.

### SURFACE WATER.

The water obtained from the rivers and drains is usually contaminated by vegetable matter, if nothing worse, and may predispose to diarrhoea and other illnesses, and it is not to be recommended for drinking purposes. It is made use of in the Crowland Rural District and some other outlying parts of the County.



### SHALLOW WELL WATER.

This water is derived from the "sock." It is the least satisfactory as it is also, probably, the most generally used, of all sources of supply. It is derived from a body of water which is in constant movement through a thin and porous stratum of silt lying on an impervious bed of clay. In the same stratum are constructed privy vaults, dry wells for slop sewage and graveyards, and, though a certain amount of filtration takes place in the silt, the water contains a large amount of organic matter in solution, derived partly from vegetable remains in the soil, but largely from sewage pollution. Below a certain depth this water becomes brackish, and in the neighbourhood of towns and villages is quite unfit for drinking purposes.

### DEEP WELL WATER.

This source of supply is derived mainly from the Lincolnshire limestone. It is accessible in the western parts of the County, but the probability of reaching it diminishes towards the eastern side, as the water-bearing strata are thinner and lie at a greater depth. The water also deteriorates in quality according to its distance from the outcrop, chlorine and total solids increasing whilst the hardness diminishes. At Crowland chlorine was found to be present to the extent of the water being unfit to drink. Supplies from this source must therefore be sought on the western borders of the County, or in the adjoining County of Kesteven.

In this way the Spalding Urban District and parts of the Spalding Rural District obtain supplies of good water.

As far back as 1906 the supply of water from deep wells to villages and townships from Spalding to Sutton Bridge was considered, and as a result, so I am informed, mains were laid from the outskirts of Spalding Town as far as Sutton Bridge, with the exception of a portion which would have passed through the Holbeach Urban District.

A bore at West Pinchbeck (since acquired by the Spalding Rural District Council) and then owned by the South Lincolnshire Water Company, was to be the source of supply in the scheme outlined above, Parliamentary powers for which had been obtained. The Company was, however, unable to proceed with the scheme. About this time a conference was held with a view to the formation of a joint water board for the districts concerned, but no agreement was reached.

A joint water board for the south of the County would solve the question of water supply. The bore at West Pinchbeck at present owned by the Spalding Rural District Council is said to have a daily output of approximately 1,000,000 gallons per day. This alone

would suffice to supply the whole County with 12 gallons per head per day and there is no reason that this source either alone or in conjunction with that of the Donington Water Company, should not, at any rate supply every village in the County south of Boston.

In the past one objection to the supply of water by main, in the south of the County, has been that such a supply would tend to water-log the land, and that expensive drainage schemes would be required to remove the excess of sewage water in districts, where at present this is disposed of in the subsoil.

Assuming the maximum estimate of a million gallons as the daily yield of the Pinchbeck bore to be correct, and that this is concentrated on one square mile of land, the effect on the height of the subsoil water in one year would be that of 25 inches of rainfall without any evaporation. If the whole of this water supply were distributed over an area extending half-a-mile on either side of the main from West Pinchbeck to Sutton Bridge, its influence on the height of the sock water would be little more than that of one inch of rainfall in the course of a year.

## SEWAGE DISPOSAL.

In the country districts, slop sewage is almost always discharged into "dry wells" dug in the alluvial soil. The sewage gradually percolates into the "sock" in the neighbourhood, and there is generally a hard water well within a short distance, from which the sock water is obtained for domestic purposes. In the towns this sewage is discharged into the sewers and carried usually without treatment of any kind, into open watercourses or drains which lead eventually to the sea.

The general elevation of the country has already been referred to; the absence of any appreciable fall to sea level adds to the difficulties of sewage disposal, and, in all schemes for the treatment of sewage, it will be necessary to provide some form of pumping apparatus.

The commonest method of excrement disposal is to privy vaults which are emptied at intervals, often of some length. Where water carriage is available, the sewage is discharged either into a cesspool in the neighbourhood or into the public sewers. The privies in some of the Urban Districts are being replaced by ashpan and water closets. The use of dry earth closets is infrequent. The conditions as regards sewage disposal do not vary to any extent from year to year and cannot be regarded as satisfactory in any district in the County.



## BOROUGH OF BOSTON.

The sewage of the Borough is discharged into the tidal basin of the River Witham. A portion of this untreated sewage, however, enters the river just below the Grand Sluice, which means that in order to reach the sea it has to pass through the town. A considerable amount of sewage reaches the river by way of the Maud Foster Drain which is non-tidal. This drain (cut in 1803) was made for the specific purpose of carrying surface water from the land, but over a period of years has been nothing more or less than an open sewer. The smells arising from this drain in the summer months are an intolerable nuisance. The drain itself has not been cleansed certainly within the last 50 years.

The Borough of Boston and the Boston Rural District Council are jointly responsible for the pollution of this stream inasmuch as they own the sewers through which sewage from their respective districts finds entry into the drain. An adequate system of sewage disposal for the Borough of Boston, including Skirbeck and Skirbeck Quarter (which although parts of the Boston Rural District Council are really suburbs of Boston) is long overdue.

In the greater portion, the West Ward of the Borough, there is a system of ejectors through which the sewage passes and eventually discharges into the river at a point near the boundary of the Borough and Skirbeck Quarter. Not all, however, of the Ward is dealt with in this way, but other portions are connected to sewers which discharge directly into the river.

In the Bargate Ward most of the house drains are connected to the "Bar Ditch," which discharges into the river below the Grand Sluice. This Bar Ditch is regulated by sluice doors which are closed two hours before and two hours after high tide.

Other drains are connected to the Court of Sewers drains, which latter discharge into the Maud Foster Drain which is not tidal.

There is no treatment applied to the sewage.

It has been suggested recently that the Maud Foster Drain should be made tidal in the lower part of its course by the construction of a sluice at or near Cowbridge. By this means the portion of the stream receiving the Urban and Rural sewage would be flushed out by the tide twice in the twenty-four hours.

This would certainly prevent to a great extent the extremely offensive conditions which obtain especially in warm weather.

The following is the approximate number of sanitary conveniences in the Borough :—

Vaults .....	486
Ash closets .....	1752
Slop closets .....	1152
Water closets .....	888

There are very few, if any, pail closets in the town, the ash closets being of similar construction, without the pail.

### BOSTON RURAL DISTRICT.

A considerable amount of sewage from the parish of Skirbeck is discharged into the Maud Foster Drain at various points between Hospital Bridge and the junction of the drain with the Witham.

Public sewers are provided in the following parishes :—Skirbeck, Skirbeck Quarter, Kirton and Swineshead.

#### SKIRBECK.

The public sewer consists of a brick barrel drain 2 feet in diameter, which discharges the sewage in its crude state in one case directly into the Maud Foster Drain, and another length discharges into an open dyke into which land drainage runs, thus assisting the sewage forward, and ultimately discharges into the Maud Foster Drain. Another short length 9 inches in diameter and 200 yards long discharges into cess pits which are periodically emptied, the contents being spread on agricultural land.

#### SKIRBECK QUARTER, KIRTON AND SWINESHEAD.

These parishes all have short lengths of public sewers consisting of 12inch pipes discharging into cess pits which are periodically emptied and the contents spread on the land.

Water closets (about 3%) discharge into sewers.

Water closets (about 29%) discharge into cess pits.

Pail closets (about 2%)

Privy middens (about 10%)

Privy vaults (about 83%)

} Emptied by occupier.

### SPALDING URBAN DISTRICT.

At the present time a portion of the town's sewage is treated by means of settling and detritus tanks. The necessary fall is obtained by pumping the sewage from the tanks on to the filter beds by means of a gas engine. A considerable number of houses drain directly into the River Welland. There are at the present time 255 water closets, 1,854 privies and privy vaults, and 761 sanitary pans in use in the town.

The latter are emptied weekly by arrangement with the Council, a clean pan being replaced at the time of removal. A charge of 5/- per annum is made for this.

The Ministry of Health have recently approved a scheme for the treatment of the sewage from the whole of the West side of the town. The necessary fall will be obtained by means of electrically driven pumps.



### HOLBEACH URBAN DISTRICT.

Sewage from about half the houses in the town goes into catch pits connected with the street drains which in turn empty into the "Old River" (one of the chief land drains in the district) and which runs through the town from south to north and is covered over for this distance. It is provided at intervals with manholes and surface gratings for ventilation purposes. The current is very slow and consequently all solid substances are deposited in its bed. A certain amount is worked out after heavy rains, and it is also periodically cleaned out by pumping. This sewer is very offensive, especially when the wind is in the north.

The street drains leading to it are often choked during heavy rain and unable to carry away surface water, whilst in hot weather the traps frequently become unsealed. The council has for some years prohibited the disposal of sewage by this means and so the method of running the sewage into loosely bricked "dry wells" sunk on the premises has been adopted. Each of the larger houses possesses one or two of these wells but one often serves for two or more cottages. These wells are periodically emptied. In wet weather or when the "sock" is high they frequently overflow and it also happens that the contents are forced back through the trapped drains leading to them with obvious results.

Excrement is disposed of by means of privy vaults, pail closets and water closets.

The water closets which are found only in the larger houses drain into dry wells which are periodically emptied.

The disposal of sewage by such means is obviously a grave source of danger to the health of the town and a proper system of drainage and sewage disposal is urgently needed.

### LONG SUTTON URBAN DISTRICT.

Houses (about 30) with hard water wells, pumps and water closets run the sewage into cesspools. A nightsoil cart removes the sewage when emptied from the cesspools and vaults.

Number of water closets—Approx. 30.

Pail closets—A very small number.

Privy middens—Nil.

Vaults—The majority.

The sewage is deposited in open spaces outside the town and when dry is distributed over the land.

This method of dealing with sewage is very primitive and is a danger to the health of the community. This is emphasised by the fact that there are so many privy vaults sunk in the same stratum as the shallow wells, with all the possibilities of pollution of the latter.

A proper system of drainage and sewage disposal is an urgent necessity in this area.

## SUTTON BRIDGE URBAN DISTRICT.

In this area the surface drainage is taken by an open drain after it leaves the township and empties some distance away into the River Nene.

Water closets (14). These are emptied into vaults from which the fluid runs over into dead wells at a distance and then soaks away. The vaults are periodically emptied by the Council and the contents placed on the land at a distance from any dwellings.

Pail closets (135). These are emptied once a week and the contents treated as above.

Privy middens, privy vaults (346). These are emptied at intervals and the contents treated as above.

The Council encourage the use of pail closets in preference to vaults and provision is made in local bye laws for this system to be adopted in all new houses.

The following scheme was approved by the Council :—

“ That the whole of the drains throughout Lime Street, Custom House Street, Wharfe Street, through King’s Street, and across Mr. Jakes’ field to the outfall be taken up and relaid with correct fall. The west side of Lime Street to be laid with pipes 6ins. in diameter, to the junction of Lime Street and Custom House Street ; the east end of Lime Street, through Custom House Street and Wharfe Street to the junction with Church Street with pipes of 9ins. diameter ; and from that point to the outfall with 12ins. pipes, together with all the necessary cesspits, gully gratings and manholes to ensure effective drainage. And if found practicable provision be made at the east end of Lime Street to admit tidal water on high tides to scour out the pipes, and the Ministry of Agriculture be asked to agree to the pipe line under their property, from the corner of King’s Street to the outfall, to be laid along a new and more direct line. Further, that the open sewer from the outfall to the corner at the bottom of Chapel Chase be cleaned out, widened or deepened as is found necessary ; that pipes of 13ins. diameter be laid under the gateway leading to the Ministry’s allotments, and that the question of the widening and deepening of the other portion of the open sewer extending from the corner of Chapel Chase to the Westmere be left in abeyance until such time as the other work is completed and its effect seen.”

The conversion of vaults into pail closets at a more rapid rate than has hitherto obtained would be of great advantage to the community and would lessen materially the possibility of pollution of shallow wells.



### **SPALDING RURAL DISTRICT.**

There is no organised method of sewage disposal ; there are still privy middens and vaults left, but most have been replaced by pail closets.

The contents of these vaults and pail closets are at intervals spread over the land.

### **EAST ELLOE RURAL DISTRICT.**

There are no sewers in the district. The usual method of dealing with slop water is to receive it into pervious cesspools, the overflow from which passes into another cesspool a short distance away. There is very little drainage in connection with the poorer property. There are practically no water closets,—privy pits and vaults being the chief forms in use and these are emptied from time to time by the tenant.

### **CROWLAND RURAL DISTRICT.**

There is no organised method of sewage disposal in the village and in the remainder of the district outside the village privy vaults are the usual method of excrement disposal.

The various drains and water-courses about the district are under the control of several drainage authorities and they are responsible for the removal of surface water only and not sewage. House drains, however, empty into these watercourses.

There are only a few water closets (approx. 12).

Pail closets to the number of 50 have been installed, and where properly used, have proved a success.

The trouble in this district, as in all parts of the County, is to get a fall for drainage.

## **POLLUTION OF STREAMS.**

There being no considerable pollution of any watercourse in the county by manufacturing or trade effluents, the pollution that does exist depends almost entirely on the defective systems of domestic sewage which obtain.

The Rivers Witham, Welland, and Nene traverse the County to their outfall in the Wash, and in addition, the County is drained by numerous open watercourses or " drains " which discharge either into these rivers or into the sea ; this can often only be effected at low tide, owing to the fact that there is no fall to sea level. The absence of any fall is a hindrance to the adoption of modern methods of sewage disposal, as expensive pumping apparatus would be re-

quired in any scheme for the bacterial treatment of sewage. The tendency has been to discharge the sewage of towns and villages into the nearest watercourse. When the proportion of sewage so discharged is small compared with the amount of surface water in the drain, and when there is sufficient movement of the contents of the drain to remove the sewage as it is discharged, a good deal of oxidation and purification of the sewage takes place naturally. There is, however, little opportunity for this when the volume of sewage is large and the flow negligible, as in the case of the Maud Foster Drain at Skirbeck during the summer months, and the Town Drain at Holbeach. Considerable nuisance is thus caused and attempts are sometimes made to obviate this by converting a drain as it passes through a populous district into a covered sewer. It should be borne in mind that, if this system is largely adopted, the possibilities of natural purification are diminished and the nuisance is intensified at the point of exit from the sewer.

The aim of sanitary authorities in rural areas should be, rather, to discourage the discharge of household sewage into watercourses of any kind, and to encourage its disposal on the land wherever this course is possible.

There has been no evidence of pollution of the River Glen from a fellmongering business at Bourne during the year.

The Rivers Witham and Welland (both tidal) receive the untreated sewage of Boston and Spalding respectively.

In the case of the Witham I have no evidence that the presence of untreated sewage has deleteriously affected the mussel layings in the Boston Fishery on the Lincolnshire side of the Wash.

In summing up, one may say that the chief obstacles to the purifications of watercourses in this area are :—

1. The fact that, in many cases, they are not under the jurisdiction of local sanitary authorities but of the Court of Sewers, and other drainage authorities.
2. The absence of a fall to sea level, which would necessitate the use of pumping apparatus in any scheme for the bacterial treatment of sewage before its discharge into a watercourse.
3. The tendency which is not confined to this district, to convert ditches which have been used as open sewers, into closed sewers, thus abating one nuisance by the creation of another, and a greater one, at the outlet from the covered sewer.

Under Section 14 of the Local Government Act, 1888, County Councils are empowered to enforce the provisions of the Rivers Pollution Prevention Acts, 1876 and 1893.



## REFUSE DISPOSAL.

The open refuse heap and the privy vault are common features of the countryside, and it cannot be said that very much is being done towards replacing them by more modern and sanitary conveniences. Accumulations of house and trade refuse not only constitute nuisances in themselves but by providing breeding places for flies and rats, add greatly to the dangers to which the health of the community is exposed. In the country districts one rarely finds ashbins or pits provided with a cover and sometimes house refuse is deposited in the nearest ditch or other convenient place with no regard for the public health.

There is no refuse destructor in the County and refuse is generally removed and deposited on land more or less remote from dwellings.

Many forms of refuse afford food for bacteria as well as for the larvæ of flies, and there should be no great difficulty in preventing any nuisance arising. All that is necessary is (1) for householders to keep the refuse, whilst on the premises, in metal receptacles with tightly-fitting covers, and as an additional safeguard, to wrap in paper any decomposable food that cannot otherwise be disposed of, as by burning, before placing it in the bin ; (2) for the Council to remove the refuse at least once weekly and then at an hour when there is little traffic ; and (3) to cover the refuse when deposited on the tip, with an adequate layer of earth.

The most satisfactory means of dealing finally with the refuse is by means of destructors, but the cost of these is prohibitive except in the larger urban areas. Spalding and Boston should certainly be provided with refuse destructors, and the question of the provision of one is again being discussed by the Council of the latter Authority.

In the case of Boston Borough, arrangements might be made in installing a destructor for the suburban areas (Skirbeck and Skirbeck Quarter) to join in with the Borough.

### BOSTON BOROUGH.

The work of scavenging and refuse disposal in the Borough is carried out by the Borough Surveyor's Department, and a weekly collection of refuse is made. The method of disposal is by dumping on land outside the town. A scheme for the erection of a pulverising plant is under consideration and this is hoped to be in operation in the very near future, as the present method of disposal is obsolete and costly.

As previously stated, there are over 1,700 ash closets in the Borough, and unfortunately these closets are emptied during the

daytime, when the ash bins are emptied. This is a very insanitary procedure and should not be tolerated in an urban community. Many of the houses also have no back entrance and nightsoil has to be brought through living rooms—a disgusting procedure.

### **SPALDING URBAN DISTRICT.**

“ In 1914 I said that I thought it undesirable and opposed to the theory of preventive medicine, to have open carts collecting and conveying refuse during the business hours of the day, particularly the hours during which food is exposed for sale. This practice is still going on, and I have had complaints made to me repeatedly about it. Even when a net is used this, in my opinion, is not sufficient, and I beg to suggest that gradually the carts now in use be superseded by carts properly constructed for this purpose. With regard to the disposal of this refuse, the present method cannot go on for long without creating a nuisance. There are few places within convenient reach adapted for dumping. If, when dumped, the refuse is burned, it may be a danger to adjacent property ; if not burnt, it will become a breeding ground for flies and become dangerous to health.” (1924).—Extract from Report of M.O.H., Spalding Urban District.

### **HOLBEACH URBAN DISTRICT.**

In this district in the case of larger houses, domestic refuse is placed in fixed open pans, which are emptied when full. The majority of householders use pails or boxes for this purpose. These are emptied by scavengers and the refuse dumped outside the town.

Fixed receptacles and makeshifts such as pails and boxes are insanitary, and should be replaced by galvanized iron bins provided with tightly-fitting lids.

### **LONG SUTTON URBAN DISTRICT.**

In this area refuse is removed in carts and dumped outside the town. In the case of large fixed receptacles, they are liable to be overlooked or emptying is not frequent enough.

Proper sanitary bins should be insisted upon.

### **SUTTON BRIDGE URBAN DISTRICT.**

Refuse is placed in receptacles once a week and is collected and emptied on to the land.

### **BOSTON RURAL DISTRICT.**

In the outlying parts of the district (exclusive of Skirbeck and Skirbeck Quarter) refuse disposal is entirely in the hands of individuals.  
**SKIRBECK.**

This work is undertaken by the local authority, the household refuse being collected once every three weeks. The refuse is placed on agricultural land,



### SKIRBECK QUARTER.

This work is undertaken by contract, the refuse being collected every week in the case of the majority of houses and about once a fortnight with the remainder. The refuse is spread on agricultural land.

For the whole of the parish of Skirbeck (pop. 4,174) two men with one cart are considered to be sufficient for carrying out the sanitary work of this large district. Ashbins and closets should be emptied at least once a week and a staff such as this simply cannot do the work. The health of the inhabitants demands much better arrangements. At present the time that elapses between one emptying of bins and closets and another is not only an intolerable nuisance but a public disgrace.

Here again, as in the Borough of Boston, the contents of ash closets are in some houses taken through living rooms to the obvious disgust and danger to health of the occupants.

The methods of refuse disposal which obtain in this part of the Rural District are of a very primitive nature and should be put upon a sound sanitary basis without delay.

### SPALDING RURAL DISTRICT.

There is no organised method of refuse disposal, practically every house having land attached.

### EAST ELLOE RURAL DISTRICT.

Refuse disposal is entirely in the hands of individuals.

### CROWLAND RURAL DISTRICT.

The Council send a cart round twice a week and collect from receptacles placed in the streets. The contents of pail closets are collected similarly.

## DAIRIES, COWSHEDS AND MILKSHOPS.

Amongst those factors affecting the general health of the community, there has been none more prolifically legislated for than milk, and yet the milk supply of the country is far from satisfactory. Although milk is such a complete and valuable article of diet the amount consumed per head of the population in England and Wales is very small, viz., approximately one quarter of a pint, which is half that consumed in other European countries and also the United States. Perhaps this may be explained in part as a sign of the reluctance of the people generally to use a food which is so frequently contaminated in three distinct ways (1) at the place of production ; (2) during transit ; and (3) by the consumer.



The consumer may cut down contamination by storing the milk in adequately covered scrupulously clean vessels. Unfortunately, however, so much milk is contaminated at the time of production and it is there that cleanliness must be observed. It may come as a surprise to many to know that it is by no means uncommon for a man with dirty hands to milk a cow whose udder and flanks are filthy, into an open pail in a cowshed with a dust-laden atmosphere.

Milk produced under these conditions is then nothing more nor less than diluted sewage. It has been shown repeatedly that it is not necessary for milk producers to instal expensive plant in order to secure a clean product.

If the flanks of a cow are groomed and its udder washed before milking into a clean properly protected pail by a man whose hands are clean a clean milk can be obtained, and what is more a milk whose keeping properties are considerably increased.

At the present time the remedy for a clean milk is in the hands of the public, and when they see fit to demand a clean milk they will no doubt get it. Milk production in this area leaves very much to be desired, and could I feel sure be very much improved if clean milk competitions could be held at intervals.

Such a competition, limited to those producers who have not less than six cows or heifers in milk at the time, and who do not hold licences to sell "certified" or "Grade A" milk, would have as objects :—

1. To show that clean milk can be produced in the County, and to encourage its production at an increased rate.

2. To demonstrate to producers and employees that without expensive plant and specially constructed buildings, but in ordinary farm buildings and under general farm conditions and without excessive increase in cost, it is possible to produce milk of high hygienic and nutritive quality, which will keep well, and then create a greater demand and command a higher price.

3. To assist dairy farmers and cow keepers interested in and anxious to produce cleaner milk, by advising them how their methods could be improved.

4. To encourage the milkers by friendly rivalry, to learn the essential conditions under which milk should be produced and handled.

5. To encourage a greater consumption of milk by showing consumers that clean milk is safer, sweeter, has better keeping qualities, and is in every way more desirable than ordinary milk.

Milk would be judged after bacteriological examination, fat and sediment tests on bulk samples at regular intervals combined with inspection of premises and methods in use.

Prizes should be offered to competitors and their milkers.

Under the Milk and Dairies (Consolidation) Act, 1915, which came into force on September 1st, 1925, County Councils are required to take the necessary steps to stop all supplies of tuberculous milk and also steps to investigate cases where milk is suspected of being tuberculous.

This in conjunction with the Tuberculosis Order, 1925 (Board of Agriculture and Fisheries), will in time, it is hoped, lessen considerably the amount of tubercle-infected milk produced.

No applications have been made to the Council for a licence to sell "Grade A" milk; in fact no use is made in this area of the Milk (Special Designations) Order, 1923.

## SLAUGHTER HOUSES.

The slaughter houses throughout the County are frequently inspected and kept as far as possible in a sanitary condition. The position (in close proximity to dwelling houses) of many slaughter houses makes them liable to be productive of nuisance, apart from the fact that in some cases the structure of the buildings is far from that to be desired.

Unfortunately there is no public *abattoir* in any part of the Administrative County, and the provision of one at Boston and another at Spalding at least would make the inspection of meat something more than a mere perfunctory performance which it is where in some areas only one meat inspector is expected to perform his duties satisfactorily; the slaughter houses being scattered all over his district and the times of slaughter being as variable as the number of premises. Under present conditions it is almost impossible to exercise effective control either as regards the slaughtering of the animals or of the meat exposed for sale.

## COMMON LODGING HOUSES.

Under Sec. 76-80 of the Public Health Act, 1875, every sanitary authority is required to keep a register of common lodging houses and to make bye laws in respect of them. The need for constant supervision by sanitary officials is increased in this area by the fact that a very large number of people tramp through the districts, particularly during the fruit and potato picking seasons.

The common lodging houses in the area appear to be kept satisfactorily.

Municipal lodging houses, e.g., at Boston and Spalding, would certainly be assets to the communities concerned.



## FACTORIES, WORKSHOPS AND WORK-PLACES.

The sanitary condition of these places is regulated by the Factory and Workshop Act. Under this Act, in the case of factories, the duties of District Councils are few, but in regard to workshops and work places they have important duties which may be classified under four heads :—

1. The sanitary condition of workshops and work places generally.
2. The provision of means of escape from fire in workshops.
3. Special sanitary regulations for bakehouses.
4. Home work.

As far as I am able to ascertain, work under this Act is carried out satisfactorily throughout the County.

## CANAL BOATS.

There are very few canal boats in the area and such as there are, are regularly inspected.

## BAKEHOUSES.

These are inspected regularly throughout the area and are generally reported to be clean or in good order.

## RATS AND MICE DESTRUCTION ACT, 1919.

The officials responsible for the work of the Act in this area are the Police and notices are served by them on occupiers requiring the destruction of rats on premises so infested. The Act, however, places the onus of rendering premises rat free upon the occupier and not the owner. This has tended to defeat the objects of the Act. On large premises repairs and even structural alterations are necessary in order to render them rat free and remain so, and one is not surprised that occupiers are shy of incurring such expense which is as much to the advantage of the owner as themselves.

Isolated action on the part of individuals is really useless as the rats simply migrate to some other congenial habitation. Intensive campaigns embracing large areas are the only satisfactory means of dealing with the pests.

A "rat week" held annually in November at the time when rats which have been destroying crops, etc., return to their winter quarters in houses and barns is of great value, and concerted action at this time is most likely to prove satisfactory.



No "rat week" has yet been held in this area. It is estimated by a competent authority that £70,000,000 worth of food is destroyed by rats annually in this country, and the figure does not include damage done to warehouses, houses, barns and furniture.

Generally speaking throughout the County the Rats and Mice Destruction Act is virtually a dead letter and the result is that rats are becoming more and more numerous. It is to be hoped that more active measures will be taken in this area in order to get rid of the pest.

## HOUSING.

In spite of the number of houses which have been built since the war, the housing conditions in the County are very unsatisfactory, and the district Medical Officers of Health, almost without exception, have repeatedly referred to the large amount of overcrowding which exists in their areas. As a matter of fact, the number of new houses built has not materially affected the amount of overcrowding, and many areas still remain in urgent need of attention. The work of the County Health Department in all its branches, but especially in connection with tuberculosis, is seriously handicapped by the deplorable housing conditions which obtain in many parts of the County. It is greatly to be regretted that, whilst large sums of money are expended annually on work in connection with Tuberculosis, Maternity and Child Welfare, School Medical Inspection, etc., so many of the population are living in houses which are damp, inadequately lighted, structurally defective, or without proper bedroom accommodation. The physical health of the occupants suffers as a result of these conditions, but this is not the only bad effect. It is only to be expected that in houses where the ordinary amenities of life cannot be observed decently the morals of the children must suffer.

The population of the County in 1914 was 84,672, and in 1925 87,680. It must therefore be borne in mind, that in spite of the loss of life due to the War, the total population to be housed is greater than that of pre-war days.

Here again at the present time many houses (unfit for occupation) are inhabited, simply for want of proper accommodation, so that schemes have to provide not only for actual shortage of houses but for the above-mentioned conditions as well.

The problem of housing construction in rural areas differs materially from that in urban districts. The cost of providing a water supply and of disposing of the drainage of houses in rural areas is considerably greater than in towns. In the country districts there

are no sewers with which houses may be connected and in most cases there is not a piped water supply which can be laid on at a comparatively small cost.

It has been suggested that if rural conditions could be brought more into line with urban areas, in these matters, private enterprise would undoubtedly be stimulated and financial assistance from the State in the matter of water supply and sewage disposal would greatly facilitate building.

Very few rural authorities throughout the country have an official ranking with the engineer or surveyor of an urban district, and one is not surprised that many rural authorities do not care to expend money on outside professional advice in the preparation of a scheme. It should be the duty of the central authority to give gratuitous assistance in the preparation of such schemes.

It has recently been stated by an authority experienced in rural housing, that "a great deal could be done in this direction by mass production of building materials and fittings, and by scientific organisation of work. Subsidies or grants from the State will never relieve the cost of building. On the contrary they have always sent up the cost. The principle is entirely wrong, and a private individual desirous of building a house for his own occupation, but for which no subsidy is available, finds that he not only has to pay his share in the taxes of the subsidies given to other people, but because of such, his own house costs him considerably more than it otherwise would do," with which remarks I am in complete agreement.

Although a County Council is not a "Local Authority" under the Act, the following powers have been given by various Acts of Parliament :—

1. County Councils may provide houses for their own employees.

2. County Councils may provide houses for small holders.

3. County Councils may make a representation to the Ministry of Health that a local sanitary authority have failed to exercise its powers and the Ministry may, after enquiry, make an Order authorising the County Council to do what is necessary.

4. County Councils may in the matter of rural areas apply for an Order conferring on the Council the powers of a particular Rural Council in reference to the provision of houses for the working classes.

5. A County Council on the complaint of a Parish Council or of four inhabitant householders in a rural area that a Rural District Council is in default may hold an enquiry, and if default is proved, may take over the powers of the District Council.



The Housing (Inspection of District) Regulations, 1910, appear to have become a dead letter in this area. As a consequence many of the local authorities are not able to state with any accuracy the number of houses which are required to abate overcrowding and to replace those unfit for human habitation.

As long as sanitary inspectors only visit houses when requested by occupiers, in order to investigate nuisances, no adequate information as to housing requirements in their respective areas will be obtained. Under the Housing Consolidated Regulations, 1925, made by the Minister of Health under the Housing Act, 1925, house-to-house inspection is again specified, and no doubt the required information will in the future be forthcoming.

According to the figures which I have been able to obtain and which I believe to be approximately correct, the number of houses completed as a result of action taken by private enterprise (subsidy, etc.) or under housing schemes since 1920 are divided amongst the various local authorities as shown in the following table, which also gives the number of houses estimated in 1919 by the same authorities as requisite to satisfy the needs of their respective areas :—

	1920	1921	1922	1923	1924	1925	Total erected 1920—25	Estimated Require- ments 1919
<b>Urban Districts</b>								
Boston .....	2*	1* 2	11*	8*	none	16 10*	<b>50</b>	362
Spalding .....	7	11*	31*	22* 4	4	23 32*	<b>134</b>	357
Holbeach .....	7	none	20*	20*	10* 2	8*	<b>67</b>	60
Long Sutton .....	none	none	none	none	none	1*	<b>1</b>	60
Sutton Bridge.....	none	1*	none	4*	8	1*	<b>14</b>	50
<b>Rural Districts</b>								
Boston .....	none	8* 25	none	41	17* 25	44 45*	<b>205</b>	583
Spalding .....	22* 9	43	20		26	2 7*	<b>129</b>	200
East Elloe .....	none	none	none	5*	48	22 10*	<b>85</b>	200
Crowland .....	none	*1	1*	3*	none	none	<b>5</b>	40

\* Erected by private enterprise, subsidy, etc.

It will be seen that some authorities have been much more active than others, in fact practically no building has taken place in Crowland Rural and Long Sutton Urban Districts since 1920. But even when everything has been taken into consideration, only the fringe of the housing shortage question has been touched.



The following table gives the number of houses erected by the County Council in connection with Small Holdings :—

Rural District.	1920	1921	1922	1923	1924	1925	Total
Boston .....			2				32*
Spalding .....	1		7	4	none		
East Elloe .....	2	4	1	2		1	
Crowland .....			4	3		1	

\* 4 of these are timber structures.

In the Holbeach and Sutton Bridge Urban Districts property is owned by the Ministry of Agriculture and Fisheries, which Government department has erected houses since 1920.

The following table gives particulars with reference to houses so erected :—

Houses erected by the Ministry of Agriculture and Fisheries during the years 1920-1925 :—

**SUTTON BRIDGE ESTATE—**

60 new houses.

3 farm houses—each divided into two dwelling-houses.

**HOLBEACH ESTATE—**

67 new houses.

2 farm houses—each divided into two dwelling-houses.

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Total    136

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## VENEREAL DISEASES.

During the year 1924 arrangements were made with the Council of the Soke of Peterborough and with the Lincoln City Council for the treatment of patients resident in the County and suffering from venereal diseases. These arrangements were approved by the Ministry of Health and came into operation in April, 1924. The clinic at Peterborough enables the patients residing in the south of the County to obtain treatment, whilst the clinic at Lincoln performs a similar function for the residents in the north of the County.

The value of the work done in connection with this service is undoubted, especially when it is understood that prompt treatment will produce a cure in the infected person, prevent infection of others, and also prevent the appalling results upon the second generation, if not the third.

If one considers only the present expenditure upon the Blind—blindness caused at birth by venereal diseases in so many cases, and which can be almost entirely obviated by treatment of the patients—the treatment of venereal diseases is a sound investment.

Arrangements exist for medical practitioners to send specimens for examination in connection with venereal diseases, to the Nottingham City Laboratory. All doctors in the County have been circularised with the place and times of attendances at the two clinics.

The following examinations were made for medical practitioners:—

Wassermann Reactions .....	5
Smears for Gonococcus .....	1

43 Wassermann Reactions were made in connection with patients attending the clinics.

Railway fares amounting to £211/10/7 were refunded to patients who were unable to bear the cost.

#### V.D. Clinics.

#### Time Table.

**Peterborough** ..... 28, Fitzwilliam Street.

Males, Tuesdays and Fridays : 6 p.m. to 7 p.m.

Females, Tuesdays and Fridays : 5 p.m. to 6 p.m.

Intermediate treatment for males : 6 p.m. to 7 p.m. daily.

Intermediate treatment for females : At times to suit patients.

**Lincoln** ..... 11, Bank Street.

Males, Tuesdays and Fridays : 5 p.m.

Females, Tuesdays : 12 noon ; Fridays : 2 p.m.

Abstract relating to persons treated at the Venereal Diseases Treatment Centres :—

	Lincoln	Peterborough Other centres
A. Number of persons dealt with for the first time and found to be suffering from—		
Syphilis .....	7	4
Soft Chancre .....	—	1
Gonorrhœa .....	6	18
Conditions other than venereal	10	4
Total .....	23	27
B. Attendances .....	252	808
C. Aggregate in-patients' days .....	—	—
D. Number of Doses of arseno-benzol substitutes		
Out-patients ..	86	43
In-patients ..	—	—

The figures in the foregoing table by no means represent the total number of cases of venereal diseases occurring in the County, as a considerable number of patients receive treatment from medical practitioners.

No application has been received from medical practitioners for the free supply of arseno-benzol compounds.

## VENEREAL DISEASE ACT, 1917.

In August, 1925, action was taken by the Police under Sec. 1, Sub-Sec. (1) of this Act, when two men were summoned for contravening this Section. The unqualified person who was giving treatment for gonorrhœa was bound over for 6 months and ordered to pay costs, whilst the man suffering from the disease was ordered to pay costs only.

It is now possible by reciprocal arrangements with the Governments of foreign countries for seamen suffering from venereal diseases to receive free treatment at any of the larger ports in countries coming within the purview of the international agreement.

Arrangements are also made whereby such infected persons, may, if necessary, be supplied with drugs, etc., in order to carry out treatment, if engaged on long voyages.

In order to make these facilities known to seamen calling at the two ports in the County, viz., Boston and Sutton Bridge, pamphlets giving the place and times of opening of the nearest clinics have been printed in French, German, Dutch, and Scandinavian.

## BLIND PERSONS ACT, 1920.

The County Council are the registration authority under the Act, and the duty of keeping the register of cases is entrusted to the Boston and Holland Blind Society. A grant (£350) is made to the Society for all branches of the work done under the Act. The principal functions of the Society are to promote the social welfare of the blind generally, to make applications for pensions for those who are eligible, and for grants from the Poor Law Guardians in necessitous cases, and to secure work for the blind in their homes, supplying them with materials and disposing of the finished articles as advantageously as possible.

The Report of the Secretary to the Society for 1924-25 states :—  
“ The work of the Society continues to increase in scope and usefulness.

There are now 123 blind persons on the register, as against 111 a year ago. Six are under 16 years of age, four between 16 and 21, 28 between 21 and 50, 39 between 50 and 70, and 40 over 70 years of age.



Four children are receiving elementary education at schools recognised by the Board of Education as efficient schools for the education of the blind ; and technical training is also being provided for three blind young men and one blind young woman at the Royal Midland Institution for the Blind, Nottingham, and for one young woman at the Yorkshire School for the Blind, York. The cost of this education and training is, with the exception of one case, borne by the County Education Committee, Boards of Guardians, and contributions from parents, but in the special case referred to above the whole cost is borne by the parents.

Sunniholme, the combined Home and Hostel for blind women, at 25, Pen Street, Boston, was opened by the Right Hon. The Earl of Ancaster, on April 10th last. The establishment of this Home and Hostel has been amply justified, the number of blind residents having varied from five to eight. There are now six in residence. Three of these are recognised Home Workers, and are therefore classified as Hostel Residents, the other three, although by no means idle, being classified as Home Residents. In addition to the permanent residents, three blind women stayed at Sunniholme temporarily, and greatly enjoyed the time they spent there. A workroom is provided at Sunniholme for the Home Workers.

At the request of the Ministry of Health, the Society's six Home Workers, with the exception of one Braille copyist working for the National Library for the Blind, are attached to the Royal Midland Institution for the Blind, Nottingham, who receive the Government Grants in respect of Home Workers, and undertake to supervise the work, to supply materials at wholesale prices, and to provide tools, etc., to render assistance in finding employment and to purchase surplus goods, and to increase the earnings of workers by sums not exceeding five shillings a week each. Towards the cost of this augmentation of earnings, the Society pays the Institution the sum of £12 per annum for each Home Worker.

Last Christmas J. T. Rice completed his training as a boot and shoe repairer at the Institution at Nottingham, the cost of his training having been provided by the Boston Board of Guardians. He has now been established, by the kind permission of the Black Sluice Commissioners, in a wooden shop on a plot of land adjoining the Black Sluice. The public are earnestly asked to support him in his endeavours to earn a livelihood.

Orders for chair caning, woollen socks and stockings, and straw baskets are urgently needed, and should be sent to Sunnihilme.

In addition to the six recognised Home Workers, there are twelve others who are carrying on various occupations of a more or less remunerative character. There are 94 who are classified as unemployable, but many of these are engaged in household and other pursuits.

Effective and much valued work continues to be carried on by the Society's Blind Home Teacher and Visitor, Miss Faith Booth. Where possible, she teaches the embossed types and various handicrafts. Most of her time, however, is spent in trying to help the blind in all their various difficulties, and to brighten their lives by reading aloud, reciting, singing, and talking to them. Miss C. L. Whaler, who is sighted, has been appointed Home Teacher and Visitor as from December 22nd last for two days a week in order that the outlying cases may be more regularly visited, and that she may visit cases where sight is required.

Entertainments for the blind are given in the Red Lion Street Congregational Schoolroom, Boston, on the first Monday evening in each month, and meetings for reading aloud, with light refreshments, are held in the Church Institute, Boston, on the third Friday afternoon in each month. Mrs. Braithwaite and Mrs. Nussey kindly entertained the blind and their friends in the grounds of Mr. J. L. Nussey, J. P., Boston, at a garden party last summer. Mr. Rippin's Band gave their services, and Mrs. Dring provided gramophone selections. The weather was fine, and a very happy time was spent."

## MATERNITY AND CHILD WELFARE.

### MIDWIVES ACTS, 1902 AND 1918.

The work under these Acts is carried out by the County Medical Officer ; some of the midwives who are resident in the south of the County are inspected by the Assistant County Medical Officer. In addition to ordinary routine inspections, special enquiries are made in cases of rise of temperature, stillbirth, death of child and inflammation of the eyes.

During the year 18 midwives notified their intention to practice in the County, but of this number 7 were doing holiday duty.

During the year 1925, 33 visits of inspection were paid to midwives, and in all cases the work of these women was satisfactory. The fact that there are now no bona-fide midwives practising in the County is something upon which the County is to be congratulated. The last of these bona-fide women voluntarily requested her name to be removed from the register during 1924.

It will be seen from the accompanying table that during the years 1911-17 inclusive, very few, if any, notifications were received in connection with medical aid, stillbirths, ophthalmia, etc., and that this period is a time when the percentage of bona-fide midwives practising in the County was high. There are still, however, several women practising midwifery illegally and efforts have been made to obtain sufficient evidence against them so that they may be dealt with summarily under the Acts.

Evidence was obtained against one woman during the year and which appeared to be sufficient to warrant the institution of proceedings. The gaining of this evidence, however, took a somewhat lengthy time, and by the time it was complete more than six months had elapsed since the commission of the offence. It was therefore not possible to prosecute (*vide Summary Jurisdiction Act, 1878*).

Unfortunately the wording of the Act of 1902 makes it almost impossible to prove a case against a woman who is attending other women in childbirth "habitually and for gain." As long as women voluntarily give assistance in confinements they remain outside the scope of the Act, and are liable to no penalty under it, whatever the consequences of their mismanagement may be. Furthermore, misrepresentation on the subject of fees for attendance may afford an easy loop-hole for evading the penalties of the Act.

The Maternity and Child Welfare Committee, at my suggestion, have adopted a form of warning notice to be sent to unregistered women who, there is reason to believe, are attending confinements for gain.

A grant of £20 was paid to the Spalding Nursing Association.



## Classification of the cases for which Medical help was sought during the year 1925.

### PREGNANCY.

Abortion .....	5
Swelling of Legs .....	1
Other abnormalities .....	6
	—12

### LABOUR.

Malpresentation .....	3
Excessive Bleeding .....	2
Retained placenta .....	3
Ruptured perineum .....	14
Delay in labour .....	21
	—43

### LYING-IN.

Rise of temperature.....	5
Other complications .....	2
	— 7

### THE CHILD.

Dangerous feebleness .....	4
Inflammation of eyes.....	6
Prematurity .....	1
Still birth .....	6
Other abnormalities .....	3
	—20
	—
	82
	—

Claims for the payment of fees in accordance with Section 14 of the Midwives Act, 1918, were received from 10 medical practitioners, to the amount of £62/15/0. This shows an increase of £32/7/6 as compared with the year 1924. The sum of £8/7/0 was recovered from patients.

In the 6 cases in which notice was given by the midwife of the occurrence of inflammation of the eyes of a baby, adequate treatment was obtained, and subsequent enquiry showed that no damage to sight resulted.

**TABLE OF NOTICES RECEIVED BY THE HOLLAND LOCAL  
SUPERVISING AUTHORITY.**

Year	1912	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923	1924	1925
Midwives who notified intention to practice— Certified ..	3	2	3	2	1	1	5	6	6	11	8	14	15	<b>18*</b>
Bona-fide ..	2	3	4	2	3	3	3	3	3	3	1	0	0	<b>0</b>
Records of sending for Medical Help	0	0	0	0	0	0	3	2	4	27	38	50	54	<b>82</b>
Notices of Still Birth	0	0	1	0	1	0	2	1	0	4	3	6	6	<b>6</b>
Notices of laying out dead .....	0	1	0	1	0	0	2	6	4	0	1	0	0	<b>4</b>
Notices of occurrence of death .....	0	0	0	0	0	0	0	0	0	0	0	0	2	<b>2</b>
Notices of liability to be a source of infection .....	0	0	0	0	0	0	2	0	0	3	1	0	1	<b>2</b>
Notices of artificial feeding .....	0	0	0	0	0	0	0	0	0	1	3	6	6	<b>13</b>

\*7 of these Midwives were doing holiday duty.

**Births notified during 1925—1,421 \***

**Births registered during 1925—1,530 \***

The following table shows the number of visits and re-visits paid to infants during the past year :—

To children under 1—First visits .....	1580
Re-visits .....	3546
To children 1 to 5 .....	1465
	<hr/>
	6591
	<hr/>

By an Order of the Ministry of Health the administration of the Notification of Births Acts in the Administrative County was transferred from the Urban and Rural District Councils to the County Council and came into force on October 1st, 1924. This has been of great advantage, and has enabled the Health Visitors to pay visits to the homes where infants have been born, without loss of time.

Arrangements have also been made by which the local registrars furnish particulars of all births and deaths occurring in the County, thus enabling the Health Department to have cognisance of births which have been registered and not notified.

Complete records of the home conditions, etc., and progress of each infant are kept, and by this means many sanitary and structural defects have been remedied after being brought to the attention of the local Medical Officer of Health.

### **WELFARE CENTRES.**

There are now three Centres in the County, viz. :—

1. Boston Infant Welfare Association.
2. Spalding Voluntary Infant Welfare Association.
3. Long Sutton Infant Welfare Association.

At all these Centres the Council is responsible for the medical services, including the Health Visitors, as well as for dried milk, medicines and stationery, the voluntary committees providing the premises and paying for their upkeep. The Boston Centre which was opened originally for mothers and babies resident in the town now receives infants from the adjoining rural area.

\* Excluding Borough of Boston.



Centre.	Time.
Boston, The Creche, Church Street.	Every Wednesday, from 2 to 4.30 p.m.
Spalding, The Church Cote.	Every Tuesday, from 2 to 4.30 p.m.
Long Sutton, The Hut.	Alternate Fridays, from 2 to 4.30 p.m.

At all the Centres a committee of ladies have been responsible for much good work in connection with instruction in making garments for infants, the materials being supplied to the mothers at a reduced rate. At each session tea is provided for the mothers and chats on infant welfare work are given by the Medical Officer or Health Visitor.

The attendances at the Centres for the year 1925 are as follows :—

	Boston	Spalding	Long Sutton
Sessions held.....	50	47	26
New cases (babies) .....	71	75	51
Total attendances .....	661	699	115

Dried milk is supplied in necessitous cases according to the following scale, which is approved by the Ministry of Health :—

When income falls below 3/- per head after rent, rates, etc., have been deducted .....	Free
When income falls between 3/- and 5/- per head after deduction of rent, rates, etc. ....	$\frac{1}{3}$ cost
When income falls between 5/- and 7/6 per head after deduction of rent, rates, etc. ....	$\frac{1}{2}$ cost
Above 7/6 per head .....	Full cost

(Exceptions.—When there are only three in family (*i.e.*, father, mother and child), milk to be allowed free when the income falls below 9/- per head).

The total amount of dried milk thus supplied at the three centres was 83lbs.

Up to the present no ante-natal work has been undertaken at the Centres, but it is hoped that this work will be commenced in at least one of the Centres in the near future.

Health visiting is one of the most fruitful of all the public services, provided the right kind of woman is doing the work. A sound knowledge of infant welfare is not enough, for a good health visitor must be essentially a tactful sympathetic person. It is only by the employment of such women that the confidence of the mothers is to be obtained, so that the Health Visitor may be welcomed as a friend and not looked upon as a mere official.

## TUBERCULOSIS.

For tuberculosis to develop in the human subject, two things are necessary, viz., the seed and a suitable soil, which means the tubercle bacillus, and a human being, who, from various causes, has become susceptible. The tubercle bacillus is widespread in nature, and varieties affecting human beings, bovines and birds occur. Adults affect one another, but tuberculosis in childhood (mainly of bones and glands) is frequently due to the bovine variety, obtained from infected milk. Everybody is exposed to infection, but only a minority develop the disease—whilst a greater number of others combat the infection successfully without manifesting any clinical signs or symptoms. These who develop the disease do so from a variety of causes. They have a lowered resistance due to prolonged under-feeding, abuse of alcohol, or lack of fresh air, sunlight and exercise. All these factors which tend to lessen the resistance can be rectified, and, what is more, rectified by the community itself. The amount of tuberculosis could be greatly lessened by the people themselves, in other words by “right living.”

There is no specific medicinal cure for tuberculosis, and it cannot be too strongly emphasised that money is much better spent on nourishing food than on bottles of patent medicines which purport to cure consumption.

The indiscriminate spitting of infected sputum, if stopped, would largely diminish one source of infection, whilst the advent of a milk supply free from the tubercle bacillus would completely cut off another source of infection.

Spitting is a disgusting habit, and if prohibited in public vehicles, why not in public streets and open spaces? Certain of the streets and open spaces in the towns in the County, especially on market days, are literally filthy as a result of spitting.

The bad housing conditions which obtain in many parts of the County, whilst not in themselves a direct cause of tuberculosis, are undoubtedly directly responsible for a large amount of the spread of infection.

Houses which are damp, structurally defective, and in many cases overcrowded, not only do not allow of the ordinary decencies of life, but make even the partial isolation of an infected person an impossibility.

I have on several occasions found that a person suffering from open tuberculosis was not only sharing a room with a healthy person, but in some cases even sharing the bed! Comment on such a state of affairs is unnecessary. All the good done in sanatoria is absolutely wasted if patients have to return to conditions such as these.

It is no uncommon thing to find, in cottages, windows which cannot be opened and in fact which were never intended to be opened.

The myth that the open window causes "colds" still obtains credence in many parts.

Sunlight, fresh air, good food and exercise, which are, after all, the essence of sanatorium treatment, should be within the reach of all people in their homes, and until the people are housed better we must continue to spend large sums of money in patching up cases, whilst at the same time many more fresh cases are being produced.

### DISPENSARIES.

The officers carrying out work in connection with the Council's Tuberculosis Scheme are the County Medical Officer and Assistant Medical Officer, who attend at the two dispensaries, particulars of which are given below:—

Town.	Street.	Day.	Time.
Boston	Holland Sanatorium, London Road	* Weds.	2.0 p.m.
Spalding	Holland Road	* Tues.	10.0 a.m.

\* Market Days.



### Attendances at Dispensaries, 1925.

			New cases.	Total attendances.
Boston	.....	.....	139*	470
Spalding	.....	.....	76*	264

\* Including contacts.

The five Health Visitors act as Dispensary Nurses in rotation (quarterly).

After a case has been diagnosed as suffering from the disease, frequent attendances of insured patients are not necessary, and, by co-operation with medical practitioners such cases are referred to them for domiciliary treatment. An initial report upon each case is sent to the practitioner concerned, who himself sends in a report quarterly (Form G.P. 36).

The times and place of dispensary meetings have been sent to all practitioners within the County area so that cases can be referred to the Tuberculosis Officers for an opinion. In cases where it is not possible for a patient to attend a Dispensary, or for any other reason, consultations with the patients' own doctor are arranged.

I am happy to state that cordial relations exist between medical practitioners in the County and the Tuberculosis Officers, and it is highly important that this should be so if anti-tuberculosis work is to be a success.

In cases where overcrowding, sanitary defects or structural defects exist in the homes of persons suffering from tuberculosis, these are referred to the District Medical Officers of Health who take the necessary steps to remedy them.

Disinfection of homes and bedding are also undertaken by the local sanitary authorities at the request of the Tuberculosis Officers.

### CONTACTS.

Arrangements exist whereby the Health Visitors forward to the Tuberculosis Officers lists of "immediate" contacts of all notified cases and these are seen at the Dispensaries or in their own homes according to circumstances. They are re-examined at intervals.

It is surprising how loath many contacts are to submit themselves to examination, pleading that they feel quite well, although there may have been one or more recent deaths from tuberculosis in the same house. To take the disease in its early stages, gives a reasonable hope of a permanent cure.

## AFTER CARE.

The problem of what to do with a man or woman, who, after a course of sanatorium treatment is not sufficiently fit to take his or her place in the battle of life, is a very serious one indeed. The removal of a wage earner to sanatorium means in many cases that the family which he has left behind suffers considerably.

There is no After Care Committee in this area to deal with conditions such as these mentioned above and I am of the opinion that the formation of such a committee would be of inestimable benefit.

## SHELTERS.

There are 27 shelters in use in the County and these were occupied by 36 patients during the year. During 1925 removals and repairs to shelters cost £47/15/6.

## HOME VISITING.

The Tuberculosis Officers paid 438 visits to patients in their own homes, and 1544 visits were paid by the Health Visitors.

## EXTRA NOURISHMENT.

One or two pints of milk daily are granted to necessitous cases after careful enquiry as to home conditions. Patients in receipt of such allowances are required to attend monthly at the Dispensaries as no orders are given to milk retailers for longer periods.

During 1925 milk so supplied to 26 patients (for varying periods) cost £84/3/5.

Cod Liver Oil Emulsion was supplied to 171 patients at a total cost of £8/11/0.

## HOLLAND SANATORIUM.

This institution was opened in July, 1922, for the reception of cases of advanced tuberculosis, consists of a converted mansion with usual outbuildings, standing in 5 acres of ground, and situated  $1\frac{1}{2}$  miles from the centre of Boston. On the ground floor there is accommodation for 12 male patients in 3 wards of 6, 2 and 4 beds respectively, whilst the first floor provides accommodation for 12 female patients in three wards of 5, 2 and 5 beds. Usually the beds are occupied by advanced cases, but as occasion requires and when beds would otherwise be empty, observation cases are accommodated in the two small wards.

In addition to the Medical Superintendent, the nursing staff consists of a Matron, a Sister, two Staff Nurses, two Assistant Nurses, and a Probationer. This staff is necessary in view of the fact that the majority of patients are confined to bed and require a great deal of attention.

The Council also provides treatment in out-County sanatoria (18 beds) as shown in the Table on page 76.

### **PUBLIC HEALTH (PREVENTION OF TUBERCULOSIS) REGULATIONS, 1925.**

One man who was known to be engaged in the milk trade and who had some years previously been notified as suffering from pulmonary tuberculosis was examined on several occasions, as was also his sputum (negative in each case). As he showed no signs of active disease no action was deemed necessary under these Regulations.

### **PUBLIC HEALTH ACT (SEC. 62).**

No action taken.

### **MINISTRY OF PENSIONS.**

Many ex-Service men suffering from tuberculosis are examined by the Tuberculosis Officers on behalf of the Ministry of Pensions. The extent of this work is shown in the following table :—

Description of Certificate.	Number of Certificates issued.
M.P., M.S., D., 81 (Section 1s and 3)	6
M.P., M.S., D., 28	50
M.P., M.S., D., 28 (a)	
M.P., M.S., D., 31	1
M.P., A., 36, T.O.	5
P., M.S., D., 34	1
M.P., M.S., D., 122	24
Total.....	87

### **STATISTICS.**

The total number of primary notifications during the year 1925 amounted to 131, as compared with 107 for 1924 and 102 for 1923.

The death-rate for pulmonary tuberculosis was .75 for 1925, showing a slight fall as compared with .76 for the previous year.

The death-rate from all forms of tuberculosis was .93 as compared with .98 for the previous year.



# PUBLIC HEALTH (TUBERCULOSIS) REGULATIONS, 1912, AND PUBLIC HEALTH (TUBERCULOSIS) REGULATIONS (No. 2), 1918.

Summary of Notifications during the period from the 4th January, 1925, to the 2nd January, 1926, in the County of Holland, Lincs.

Notifications on Form A.													
AGE-PERIODS.	Number of Primary Notifications.										Total Notifi- cations on Form A		
	0 to 1	1 to 5	5 to 10	10 to 15	15 to 20	20 to 25	25 to 35	35 to 45	45 to 55	55 to 65 and upwards		Total Primary Notifications.	
	Pulmonary Males.. Females Non-Pulmonary Males Females	— — — —	2 — 1 1	1 4 3 1	2 5 4 1	2 5 3 1	4 11 1 3	14 15 1 2	7 9 — 1	6 6 3 1	1 1 — 1	2 2 — —	41 58 16 12
Number of Notifications on Form C													
AGE-PERIODS.	Notifications on Form B.							Total Notifi- cations on Form B	Poor Law Institutions.	Sanatoria.			
	Number of Primary Notifications.												
	Under 5	5 to 10	10 to 15	Total Primary Notifications.				Poor Law Institutions.	Sanatoria.				
Pulmonary Males.. Females Non-pulmonary Males.. Females	— — — —	1 — 1 —	4 1 1 1	5 2 1 2	5 2 1 2	2 2 1 2	2 2 — —	38 45 9 4					

## SUPPLEMENTAL RETURN.

New cases of Tuberculosis coming to the knowledge of the Medical Officer of Health or Chief (Administrative) Tuberculosis Officer during the period from the 4th January, 1925, to the 2nd January, 1926, otherwise than by notification on Form A or Form B under the Public Health (Tuberculosis) Regulations, 1912.

Age Periods	0 to 1	1 to 5	5 to 10	10 to 15	15 to 20	20 to 25	25 to 35	35 to 45	45 to 55	55 to 65	65 and upwards	Total
Pulmonary Males .....	—	—	—	—	—	2	1	1	2	1	1	8
"    Females .....	—	—	—	—	1	—	1	1	1	1	—	5
Non-pulmonary Males .....	1	—	—	—	—	—	—	1	1	1	—	4
"    Females .....	—	—	—	—	—	—	—	—	1	—	1	2

# PUBLIC HEALTH (TUBERCULOSIS) REGULATIONS, 1924.

Number of cases of Tuberculosis remaining or the Register of Notifications kept by District Medical Officers of Health in the County on the 31st December, 1925.

TOTAL CASES.	PULMONARY.			NON-PULMONARY.		
	Males.	Females.	Total.	Males.	Females.	Total.
273	111	95	206	35	32	67





# HOLLAND SANATORIUM.

Table showing admissions, discharges, etc., for year ending December 31st, 1925.

Domicile of Patients	In Sanatorium Jan. 1st, 1925	Admitted during 1925	Discharged	Died	In Sanatorium Dec. 31st, 1925	Total
Holland .. ..	13	39	26	10	16	52
Kesteven .. ..	5	15	13	5	2	20
Lindsey .. ..	1	2	—	1	2	3
Total .. ..	19	56	39	16	20	75

## DEATH-RATE FROM TUBERCULOSIS (all forms.)

Year		Holland County	England and Wales
1911	..	<b>1.23</b>	1.47
1912	..	<b>1.26</b>	1.37
1913	..	<b>1.05</b>	1.36
1914	..	<b>.88</b>	1.37
1915	..	<b>1.11</b>	1.52
1916	..	<b>1.11</b>	1.53
1917	..	<b>1.23</b>	1.63
1918	..	<b>1.15</b>	1.70
1919	..	<b>1.37</b>	1.26
1920	..	<b>1.24</b>	1.14
1921	..	<b>1.11</b>	1.14
1922	..	<b>.97</b>	1.12
1923	..	<b>.88</b>	1.06
1924	..	<b>.98</b>	1.05
1925	..	<b>.93</b>	—

## DEATH-RATE FROM TUBERCULOSIS (Pulmonary).

Year		Holland County	England and Wales
1911	..	<b>.76</b>	1.06
1912	..	<b>.85</b>	1.03
1913	..	<b>.65</b>	1.00
1914	..	<b>.63</b>	1.03
1915	..	<b>.88</b>	1.14
1916	..	<b>.91</b>	1.16
1917	..	<b>.86</b>	1.24
1918	..	<b>.88</b>	1.32
1919	..	<b>1.06</b>	.98
1920	..	<b>.95</b>	.88
1921	..	<b>.82</b>	.89
1922	..	<b>.66</b>	.89
1923	..	<b>.68</b>	.84
1924	..	<b>.76</b>	.80
1925	..	<b>.75</b>	—



**DEATHS FROM TUBERCULOSIS. (Holland County).**

Year	Deaths from Pulmonary Tuberculosis.	Deaths from Other Forms
1911 ..	63	40
1912 ..	71	35
1913 ..	55	33
1914 ..	53	32
1915 ..	71	26
1916 ..	78	25
1917 ..	72	22
1918 ..	88	21
1919 ..	87	25
1920 ..	81	25
1921 ..	70	25
1922 ..	57	27
1923 ..	59	17
1924 ..	66	20
1925 ..	66	16

**FOOD AND DRUGS ACTS.**

The official responsible for the administration of these Acts is the Chief Constable of the County, the sampling officers being Police Inspectors. Arrangements have been made, however, to facilitate collaboration between the Chief Constable and the County Medical Officer of Health, with special reference to the type of food and drugs to be sampled, and the district or districts in which such sampling appears to be most needed.

The following information has been taken from the quarterly reports of the County Analyst, Mr. Gerrans, F.I.C. :—

Nature of Articles submitted for Analysis.	By whom submitted	Result of Analysis.	Observations
31 Milk .....	Inspector (Boston)	Genuine .....	Actual adulteration could not be certified.
6 Milk .....	"	Adulterated as under :—	
		(1) 20.6% fat deficient .....	
		(2) 4.6% " " .....	
		(3) 4% " " .....	
		(4) 4% " " .....	
		(5) 38% " " .....	
6 Butter .....	"	(6) 8.7% added water .....	
7 Margarine }	"	Genuine .....	
1 Margarine }	"	Genuine .....	
	"	Inferior .....	
4 Whisky .....	"	Genuine .....	Actual adulteration could not be certified.
1 Brandy .....	"	Genuine .....	
1 Gin .....	"	Genuine .....	
17 Milk .....	Inspector (Spalding)	Genuine .....	
9 Milk .....	"	Adulterated as under :—	
		(1) 10% fat deficient .....	
		(2) 3% " " .....	
		(3) 5% " " .....	
		(4) 10% " " .....	
		(5) 9% " " .....	
		(6) 8% " " .....	
		(7) 7% added water .....	
		(8) 16% " " .....	
1 Butter .....	"	(9) 5% " " .....	
1 Margarine	"	Genuine .....	Actual adulteration could not be certified.
1 Sweet	"	Genuine .....	
Spirits of nitre	"	Genuine .....	
1 Baking Powder	"	Genuine .....	
4 Rice .....	"	Genuine .....	
1 Lard .....	"	Genuine .....	
1 Dripping	"	Inferior .....	
1 Bread .....	"	Genuine .....	
2 Honey .....	"	Genuine .....	
1 Jam .....	"	Genuine .....	
1 Marmalade	"	Genuine .....	Actual adulteration could not be certified.
2 Whisky .....	"	Genuine .....	
2 Brandy .....	"	Genuine .....	
2 Arrowroot	"	Genuine .....	
2 Cornflour	"	Genuine .....	
1 Flowers of Sulphur	"	Genuine .....	
2 Egg Powder	"	Genuine .....	
2 Pepper .....	"	Genuine .....	
1 Mustard .....	"	Adulterated 17% wheat flour	
1 Coffee .....	"	Genuine .....	
1 Cheese .....	"	Genuine .....	Actual adulteration could not be certified.
1 Bland's Pills	"	Inferior .....	

In all the samples of Margarine Boric Acid was present under 0.5% in each case.

The following Table shows the results of proceedings taken in cases where samples of milk were found to be adulterated :—

Sample.	Adulteration.	Action taken	Result.
Milk .....	10% of the required fat deficient	Vendor summoned	* Fined £2
Milk .....	9% of the required fat deficient	Vendor summoned	Fined 30/-
Milk .....	8.7% of extraneous water	Vendor summoned	Fined £1
Milk .....	8% of the required fat deficient	Vendor summoned	Fined £1
Milk .....	38% of the required fat deficient	Vendor summoned	† Case dismissed
Milk .....	7% of extraneous water	Vendor summoned	† Case dismissed
Milk .....	10% of the required fat deficient	Vendor summoned	No information received

\* Previous conviction 14th May, 1925. Fined £1 for selling adulterated milk.

† Case of *Hunt v. Richardson* cited.

The last quarter of the year saw the coming into operation of the Milk and Dairies (Consolidation) Act, 1915, sections 8 and 9 of which Act more especially apply to the Administration of the Sale of Food and Drugs Acts.

The two sections state as follows :—

SECTION 8 (s.s. 3).—Any officer authorised for the purpose of taking samples under the Sale of Food and Drugs Acts may give notice in writing requiring the authorised officer of a local authority outside his area to take samples of milk at a dairy supplying milk to the area of the former authority, within 60 hours of the reception of such notice.

This sample when taken is supposed to be one of a corresponding milking to that which was taken by the authority giving the notice, and is intended for purposes of comparison.

SECTION 9 in conjunction with the Third Schedule of the Act provides that where a warranty defence is pleaded by a purveyor of milk, a sample from a corresponding milking must be taken in the course of transit or delivery, to the purveyor, and if the owner of the cows so requests, a further sample must be taken at the dairy at which the cows are kept.

*The Warranty Defence will not, however, be available when the sample in respect of which the proceedings are taken, is a mixture of milk obtained from more than one seller or consignor.*

Power is also given to take proceedings against the seller or consignor, instead of, or in addition to, taking proceedings against the actual vendor.



The samples of margarine submitted were all found to be of normal composition and classified as genuine, except one sample which contained 14.83% of water, an amount below the extreme limit of 16% laid down by the Butter and Margarine Act, 1907, and which was classified as inferior in view of the high percentage of water. All the samples contained under .5% boric acid (used as a preservative).

The limit of strength laid down by the Licensing Act, 1921, Sec. 10, is 35 degrees under proof for brandy, whisky, rum and gin, and all samples of spirits submitted were found to have the composition of unadulterated spirits and so classified as genuine.

The samples of egg powder consisted of starch admixed with baking powder ingredients, the whole being coloured with a yellow dye. At present there is no official or generally recognised definition respecting the composition of articles sold as "egg powder," and the sale of such preparations appears to have become established as a trade custom. The samples were therefore reported genuine.

The sample of Bland's Pills could not be certified as actually adulterated, but was classified as inferior, because the percentage of ferrous carbonate was somewhat low.

The sample of mustard reported as adulterated was found to contain 17% of foreign starchy matter having the character of wheat flour.

## APPENDIX.

### TO THE CHAIRMAN AND MEMBERS OF THE PUBLIC HEALTH AND HOUSING COMMITTEE.

Gentlemen,

#### HOUSING.

At the annual meeting of the County Councils Association held on the 25th March last, the Minister of Health, Mr. Chamberlain, gave an address in which he suggested, amongst other things, that County Councils should—

- (a) aid the Housing Authorities in their areas by means of conferences and collaboration with District Councils and land-owners with a view to collating the actual housing demand in the area and endeavouring to secure standardisation of type in order to obtain the benefit of large scale production, for example, by the building of steel houses.
- (b) utilise their powers under Section 5 of the Housing Act, 1923 (as applied by Section 12 of the Housing (Financial Provisions) Act, 1924) for the encouragement of owner-occupiers and Public Utility Societies.
- (c) utilise their powers (under the same Act) of advancing money to owners for altering and reconstructing their houses.
- (d) encourage craftsmen to build for themselves by their own labour.

These suggestions were carefully considered by the Public Health and Housing Committee of the Association on June 10th, when the following resolution, which was subsequently unanimously adopted by the Executive Council on June 22nd, was passed :—

“ That, in the opinion of the Committee, the Executive Council  
 “ should strongly recommend County Councils in England and  
 “ Wales to use the utmost endeavours either upon the lines sug-  
 “ gested by the Minister of Health in his address to the Associa-  
 “ tion at the recent annual meeting, or by such other methods as  
 “ they may deem appropriate, to assist in the solution of the  
 “ housing problem in this country.”

It will be seen that this resolution in no way contemplates interference with existing Housing Authorities in administrative counties, on the contrary, it is intended that County Councils should so far as it lies in their power assist authorities to obtain the best results under the various Acts, the carrying out of which has been entrusted to them by Parliament.

Under paragraph (b) above much might be done to assist the erection of houses for occupation by the owners.

Under paragraph (c) it is anticipated that a great deal of useful work could be done in co-operation with owners in bringing up to date houses which are at present unsatisfactory or are not in accordance with modern ideas. In some districts the judicious use of this power may reduce the number of new houses which would otherwise have to be provided.

It should be noted that Section 12 of the Housing (Financial Provisions) Act, 1924, states in sub-section 3—

“Money borrowed by a County Council under any powers conferred on them by the Housing Acts, 1890-1923, or this Act shall not be reckoned as part of the total debt of the County for the purpose of any limitation on borrowing imposed by any Act of Parliament.”

The County Council of Middlesex is already exercising these powers under the above-mentioned Acts for assisting persons—

- (a) to construct or alter or undertake to construct or alter houses, or
- (b) to acquire or undertake to acquire houses, the construction of which was begun after 25th April, 1923.

The arrangements made by this County Council state *inter alia*—

1. Applications from persons desiring assistance should be made in the first instance to the Council of the Borough or district in which the property is situate but may thereafter be made to the County Council by letter.

2. Loans may be advanced in respect of houses of an estimated value including value of freehold site, of not more than £1,500 with certain provisos.

3. The advance of loans to be subject to the following conditions :—

- (a) The superficial area of the dwelling must not be less than 620 feet if it comprises 2 storeys (with possibly an attic), nor less than 550 feet if it consists of a one-storied house, nor 550 feet for each if it consists of flats, and the house or flat must be fit in all respects for human habitation.



- (b) The amount of the loan shall not exceed 90% of the value of applicant's interest in the property and shall be secured by mortgage of the property.
- (c) Advances by instalments as building or alteration progresses may be made, provided that the total advance does not, at any time before completion of the work, exceed 50% of the value of the work done, including the value of the interest of the mortgagor of the site. (Under this Section further details are given with reference to the payment of principal and/or interest, and the times at which such payments shall be made).
- (d) No advance can be made except after a valuation made by the Council.
- (e) Borrowers will be required to show good title to the property to the satisfaction of the County Solicitor, and to execute mortgages and charges in the form prepared by him.
- (f) The County Council are not prepared to consider applications for guarantees to Building Societies or for refund of excess rates, such applications and those relating to subsidies to be made to local Councils.

As a scheme such as that outlined above might prove useful in the Administrative County of Holland, I would suggest that the Public Health and Housing Committee of the Holland County Council convene a meeting of the representatives of Housing Committees of all authorities in the County with a view to the interchange of ideas and to explore any avenue which may lead to further success in the solution of the housing problem.

I am, Gentlemen,

Your obedient servant,

**H. C. JENNINGS,**

*County Medical Officer of Health.*

*Health Department,  
Sessions House, Boston,  
August, 1925.*

